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THE HYGIENE OF DRAWING.

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In the voluminous literature on drawing little is said about the hygienic aspects of the subject. It is important, however, here as elswhere, to get the hygienic point of view. For lack of it in the past, atrocious methods—like the stygmographic—have sometimes been used. For lack of it at the present time, many errors prevail, and there is often failure to give suitable opportunity for the development of this form of artistic speech.

Psychiatry has shown that the development of normal habits of expressing thought and feeling is especially important. All the different forms of motor training have to do with the expression of thought. Hence it is by no means a matter of indifference to hygiene what methods are employed.

The sequence in the natural expression of thought can be observed in the spontaneous activities of children. I have noted it in a young boy. Probably in its main feature the case is typical. As soon as he had passed the infant stage of crude gestures and crying and had learned to walk easily and to run about, he had a new means of expressing his thought and interest. When he ran, he represented a horse, dog, calf, or some other animal. A piece of wood, bark, cornstalk, or the like, furnished the *point de repère*, but the rest was represented by his own activity, notably by running and by imitating the noises of animals. This mode of expressing thought by means of bodily movement continued even after he had other means of expressing his ideas. The next method was by means of language either in description of real or imaginary animals, in stories, or in poetical form. Then still later, came the mode of expressing thought by some form of manual activity, in his

case, paper cutting. All these forms of objectifying thought were then employed, the earlier method by bodily activity still remaining a favorite one, and all apparently being needed by the greater development and complexity of his mental life. The dominant mode was determined largely by the season. In the summer the paper cutting was for the most part given up. Animals were represented by fruits and vegetables; pigs, by cucumbers; horses and cattle, by rolling apples; turkeys and geese, by seed pods, etc. The summer gave full opportunity also to the dramatic instinct. Playing horse was the favorite mode of expressing this. Hours were spent each pleasant day in running with a horse of goldenrod or the like in one hand and a whip in the other.

Thus physical exercise is a means of expressing thought. And the plays of children, first common, spontaneous plays, and later gymnastic plays, dramatic plays and the like, are the natural propedeutic to drawing as a more special method of expressing thought.

The aim of instruction in drawing has been expressed in many different ways. Most writers agree in making one essential aim an introduction to the study of the beautiful, together with the development of the power of visual observation and the acquisition of motor skill. From the point of view of hygiene the essential aim is the development of a normal habit of expressing thought. Hence the demands of hygiene are both negative and positive—on the one hand the avoiding of all detrimental conditions, and on the other hand the training in drawing as a normal form of reaction.

In drawing very much the same hygienic rules are to be considered as in writing; but as drawing is a means of motor expression that may very naturally come before writing, and as it has some peculiar aspects, the hygiene of this subject demands special consideration. Baginsky (1) maintains that drawing is a specially dangerous occupation for young children on account of the strain upon the eyes that is likely to occur and the strong tendency to mal-positions. The obvious points to be considered may be briefly stated.

There should be suitable seats and desks adapted to the heights of the pupils; the position of the body and the hand should be correct; long pencils should be used; the eyes should be kept at a proper distance from the table and the blackboard. Even at the blackboard there is a tendency, as Mr. Tadd (51) has pointed out, for pupils to bring their eyes near to the board and hold them at an angle. Care should be taken to have fine work placed upon the board with many accessory drawings. The drawing should be omitted when the light is insufficient.

Drawing by artificial light should be avoided; if necessary, then there should be an abundance of diffused light and individual lamps at each desk. Continuous work of the eyes in drawing should be broken by opportunities for looking at things at a distance. And, in general, the well accepted rules in regard to the hygiene of vision should be regarded. Drawing should not be given as a home task, at least not in the lower grades. And children should be taught that correct drawing is only possible with a correct posture. Baginsky (1) thinks it more difficult to get a correct posture in the drawing class than in the writing class because the children are so much interested in drawing that they forget all about their position. Much of the work should be done standing, The pupils should be warned against putting their fingers in their mouths when stained with colors. Care must be exercised in the use of thumb-tacks etc. A few general points should be emphasized:

The Principles of Motor Training. All the principles of motor training should be observed. The work at first should be determinated by the structure of the child's arm and hand, the condition of development, and the instinctive need for expression. Here as in general, fine and difficult work is out of place with beginners. This hygienic rule is quite in agreement with the teaching of psychology. The studies of Barnes (3, 4) and others show that at first the reproduction of large and essential features is natural and interesting to children.

Age of Beginning. As regards the age of beginning the work, there is great difference of opinion. In Germany, systematic work in drawing is begun at the age of ten, in France at an earlier age. The more important question is in regard to the kind of work and the method employed. If the work is made large and free, and is not continued for too long a period, it may be quite suitable for young children even in the kindergarten stage. Studies by Lukens (33) and others have shown that very young children spontaneously express their thoughts by means of drawing. This has distinct educational value, and is a normal, healthful activity.

It is noteworthy that even artistic expression often begins at a relatively early age. Crichton Browne calls attention to the number of artists who have exercised themselves in manual expression at an early age. "Giotto was discovered sketching on a stone one of the sheep which he was shepherding when only ten years old. Gainsborough gave proof of marked talent for landscape painting when scarcely fourteen. Canova modelled exquisitely in butter when thirteen years old. Turner exhibited in the Royal Academy at the age of fifteen. Sir

Edwin Landseer gained the prize of the Society of Arts when he was thirteen. George Moreland had pictures accepted by the Academy when not yet ten. Thorwaldsen had made a reputation as a carver of the figure-heads of ships when thirteen, and Wilkie drew spirited portraits of his school fellows when only seven." Kerschensteiner (26) reproduces pictures made by Albrecht Dürer and Hans Thomas when thirteen and fifteen years of age; and in his own collection are remarkable drawings by boys eight and thirteen years of age.

Development of artistic ability at an early age does not seem to be abnormal. The demand of hygiene is merely that artistic activity in the early years shall be spontaneous.

If by instruction in drawing is meant the technique of method, then, as Dr. Schmid-Monnard maintains, it should not begin before the age of ten or eleven. Instruction before this time is apt to be mere drill, and likely actually to injure an interest in drawing. This postponement of drawing is required by pedagogy as well as by hygiene. Prof. Barnes (3) was the first to show by the drawings of a large number of children that interest in the technique comes late, and he rightly warns teachers that they may so emphasize the grammar of drawing in the early years as to destroy genuine interest in the subject. Drawing up to the age of eight or ten should be spontaneous and individual.

The Sequence of Instruction. How should drawing begin? The child should answer this question. The spontaneous activity of children is instructive; it is large, free, hygienic, with concentration, but for short periods, with natural ebb and flow of attention. The products of this activity represent life and action. On the other hand our systematic courses in motor training, even in gymnastics, are apt to be formal, mechanical, artificial, mathematical, beginning with the technique and with geometrical figures, and representing the static and the conventional. From the logical adult point of view the first thing is to learn to draw a straight line. Many will recall the rows of lines in the old copybooks. A common exercise was to draw a line connecting two points. The straight line, however, is not the most natural line, and it is the one line that the artist seldom or never makes. One should begin rather with the large curves that are easily made on account of the structure of the arm. Mr. Cooke (15) in his A B C of drawing notes this and gives some very sensible advice in regard to the work for young children. According to his view, scribble, the result of the child's free, spontaneous activity, is of great value.

"The line," he writes, "the child makes naturally in scribbling is not straight but curved, not an arc but a graduated curve. Its shape is determined by the structure of the arm

and perhaps the movement. If the hand is stretched out in front to its fullest extent and is moved outwards, it draws a line in the air which passes gradually from nearly straight in front to a rapid curve on the outer limits. This line, which is a result of the structure of the arm, is the easiest to make and is pleasing to produce, for the child repeats it frequently." When the hand is brought back, a sort of ellipse or oval is formed. In his free scribble, the child often makes this or parts of it. It is the characteristic form of living things, the line of Greek art, "the first line made by the child and made of necessity from the structure of its arm."

Again, whole arm movements should be employed as is natural to the child when scribbling. Rapid action over a smooth surface is more easily controlled than slow movement.

"Non-resisting materials the child selects, and the pavement artist knows their value. The misty window-pane, the seashore sand, the wet finger-tip, the leading of water over a smooth surface are some of the child's suggestions. Chalk and blackboard, brush and color, charcoal or colored chalk on paper we can adopt. Brush and water on the blackboard are the readiest materials for us; whatever can be most easily used should be used; drawing in the air with the finger tip is not to be despised." (15, p. 149.) Children should be given ample opportunity for such large and free exercise. Prof. Geddes has a room with walls on which his children can draw; and he recommends a room with sides all of blackboards.

Dr. Lukens (34), on the basis of his careful study of the drawings of young children, distinguishes four periods of development. The period of scribble, the period of artistic illusion, the period of self-consciousness, and the rebirth of adolescence.

The first period is until about the fourth or fifth year; the child's interest is greatest in the objects themselves or the drawings of others, but he can produce nothing himself but scribble. In the writer's opinion, Dr. Lukens does injustice to the child's interest in his own activity at this period, in drawing for its own sake. Even at this period the child shows many potentialities and his activity is prophetic of that of later periods. But in any case there should be ample opportunity for scribbling.

The second period, extending perhaps to the age of twelve or fourteen, is the period of imagination, of "artistic illusion," the golden age of drawing, when the child delights to draw out of his own head, but feels no need to draw from nature the objects actually before his eyes. "It is a fundamental fault of the drawing course," says Dr. Lukens (34, p. 946), "that it ignores this period of development and destroys the golden age by leading the pupil into temptation. The drawing

teacher admonishes him: Open your eyes and see the tree and the fruit thereof, as they really are. Draw the apple exactly as you see it. The pupil does so, and his eyes are opened, and he sees his nakedness, and is filled with shame. The divine gift of artistic illusion vanishes; he awakes to find that he cannot draw. Then follows the curse all his life long. In sorrow he must draw from the objects all the days of his life. Painful copying, spiritless imitation is the start, and unto the same the pupil ever returns."

When children fall into the use of conventional forms then they have already lost the power of artistic illusion, and the time has come to begin drawing from nature.

The third period, from perhaps twelve or fourteen to fifteen or sixteen, is the self-conscious or critical period. The zest in drawing as a means of expressing thought is destroyed without the pupils being able to draw well enough to wish to practice any more. Barnes's studies indicate that the desire to draw decreases after the age of thirteen or fourteen. Drawing teachers probably can testify that children often make little progress after twelve.

The fourth period is that of adolescence, where some experience a rebirth of creative power. The art activity is worth while for its own sake. The golden age of childhood is revived. The work itself is self-satisfying; and some become artists by profession.

The dangers to be guarded against are an artificial environment, the repression of a natural activity, the premature development of the self-conscious, critical stage, and, in general, the dwarfing that comes from lack of opportunity for normal expression in drawing at the different periods.

Vision. Drawing is not injurious to the eyes under proper conditions. But tests of vision should be made before formal instruction is begun. Color blindness is frequent among children, as many investigations here and in Europe have shown. In this country Jeffreys (25a) reported, in 1880, on an investigation of 27,927 school children for color blindness. He found among 14,469 boys 4.202% were color blind, although among 13,458 girls only 0.066%. Recently investigations of the color sense have been made by Monroe and others. All show the frequency of the defect. Color blindness may be either complete or partial; in the former case, there is no perception of color, in the latter, there is red-green or blue-yellow blindness. Sometimes there is only weakness of the color sense. Complete color blindness is apparently rare. The test for vision should include a test for color blindness. It should be noted that we cannot test properly by asking the names of the colors, the proper method is the use of the Holmgren worsteds. (25.)

Posture. The necessity of an erect posture in drawing has been made a subject of special consideration in Germany. The section on drawing of the Berlin Teachers Association has formulated the following rules, with the advice of Dr. Cohn of Breslau, Dr. v. Esmarch of Kiel, Dr. Berlin of Stuttgart, and Dr. Schubert of Nuremberg. (29, p. 1016.)

1. The position of the upper part of the body should be natural and without strain, as free and erect as possible. The head should be inclined only a little and toward the side, and bent forward only very slightly. Both shoulders should remain at equal height. The line connecting them should be parallel to the edge of the table. The legs should be kept apart. The lower part of the leg should be kept vertical, the feet squarely on the soles.

2. The drawing surface should be placed directly in front of the medial line of the pupil.

3. The left forearm should lie on the table, and can be stretched forward when necessary until the lower part of the upper arm is on the surface of the table. But the forearm should not be used as a support for the upper part of the body. The left hand should lightly hold the drawing surface.

4. The right forearm should be so placed that free movement is possible. It should neither be placed firmly against the body, nor serve as a support for the upper part of the body.

5. The right hand should be supported lightly on the little finger. The hand joint should not touch the drawing surface, and the hand should never cover the line to be drawn.

To these rules may be added the directions of the same Teachers' Association in regard to holding the pencil: The hand should grasp the pencil like a penholder with three fingers. The pencil should be so long that it has a support on the hand between the thumb and the index finger, and can be grasped at not less than from two to three cm. from the point. In sketching drawings the pencil should be inclined at less than a right angle to the drawing surface. In copying drawings the pencil should be grasped at a shorter distance from the point and held more nearly vertical. (29, p. 1015.)

Length of Period. It is important that the period of work in drawing should not be too long. When the work causes nervousness it should be postponed; especially where fine work is required and attention to details is necessary the period should be short. With such precautions the work is a healthful occupation.

Apparatus. The apparatus for drawing is very simple. Large pencils or crayons and suitable paper are all that is necessary. Very satisfactory substitutes for blackboards—such as

white tablets on which black crayons are used—have been invented. If blackboards are used they should be of the best slate and care should be taken for cleanliness. Dustless crayons, removable troughs, and special machines for cleaning erasers have also been invented.

When colored chalk is used, care should be taken to avoid the possibility of poisoning. The need of this is illustrated by a case of arsenic poisoning reported by Dr. Gaffky. (59, 1896, p. 158.)

A professor in the University was taken ill, and it was found that he recovered on leaving his work, but was ill again soon after returning to it. His physician investigated his rooms at the University and was struck by the beautiful colored drawings that the professor had placed upon the blackboards. This suggested a test for arsenic poisoning. The sweepings of chalk of the green and light blue crayons showed a slight arsenic mirror. Brown and especially violet showed a strong trace.

A quantitive test of the violet showed 7.3 to 7.4% of arsenic. After nine days a liter of the patient's urine showed a strong arsenic mirror. After removing the chalk that contained arsenic the condition of the patient continually improved. The lesson of this case is obvious.

Drawing books are a survival from a scholastic past, and are no longer used by the best teachers. If they are used, they should be made with regard to hygienic demands. Two points deserve special consideration. First, they should not give work likely to be injurious to the eyes. Second, they should not give too fine work. These two points are really one, but the matter is important. A Württemberg regulation of 1870 (see Burgerstein, Handbuch, p. 276) require that the drawing copies shall not be too small, too full, or too dim.

Methods. Some of the methods of drawing are to be condemned outright. Especially the so-called Stuhlmann (49, 50) method which consists of drawing by the aid of a network of fine lines, points, and the like. In 1880, a number of German oculists were consulted in regard to this method, and 20 out of 22 condemned it as injurious to the eyes. The Bavarian Ministry in 1883 forbade the use of it in the schools. According to this method the pupils, even in the first school year, draw in a network of lines, which form squares of 7 or 8 mm., while these by their small size and the dull blue of their lines force the eyes to a greater approximation to the paper; this is especially true in the case of the network of points that are used from the third year on. These consist of points which are arranged at a distance of 1 cm. apart, in vertical and horizontal rows. (28, p. 269.) From this confused network the pupil determines the direction of his pencil by mechanically

counting the points. From the point of hygiene this method is atrocious. While now largely obsolete it illustrates what is likely to occur when attention centres on the product and hygiene is forgotten.

Official Norms. The official regulations in Norway in regard to the drawing room and its equipment are fairly good, and in substance as follows (59, 1889, p. 569): the drawing room must be so arranged that the light comes from the north. The drawing tables should be so arranged that the light comes from the left. The drawing room must have abundant light; the window should be at least 1 ½m. high, and the top of the window must extend to the ceiling. The total window surface should equal at least ⅓ of he floor surface. It is especially desirable to have the drawing room provided with light from above, since such light is equally diffused over the whole room. It is recommended, therefore, that the drawing room be placed in the top story where conditions are favorable. The drawing tables should be constructed in such a way that the pupils can work standing. The breadth of the tables should not be less than 75 to 80 cm. in order to give room for the drawing model. They should be provided with a slanting top 60 cm. broad and a horizontal surface of from 15 to 20 cm. in breadth for the model. To each pupil a length of table of 70 cm. should be allotted. The height of the lowest edge of the slanting table top should be 1 m. above the floor. When the height of the table is too great for the smaller children they should be supplied with pieces of plank, which later on can be used as support for the models when it is desirable to place them on a higher position for the larger pupils.

Drawing should be a valuable means of training in the alphabets of healthful activity: 1, By training to healthful modes of expressing thought; 2, by developing habits of cleanliness. The importance of the latter should be emphasized, and great care should be taken not only to have the drawing room clean, but to keep all of the models, illustrations, and the like, clean, to avoid the dust of pencils, chalk, etc.

Drawing as a typical form of artistic expression represents a form of activity positively in the interest of health. It is one of the oldest, most primitive, and most universal forms of speech. Only the psychiatrist realizes the importance to health of normal habits of expressing thought and emotion. But even common observation shows the danger in extreme cases of anything that interferes with the normal reaction to feeling; silent grief, a hidden shame, the fear that must not be mentioned, are cases too well known.

Any form of artistic expression is a relief to intense feeling and a prophylactic against morbid emotion. Goethe in his

Dichtung und Wahrheit (23 a) has reported a very interesting example of this from his own experience. Depressed and melancholiac, and distracted between thoughts of suicide and love of life, he sought a remedy in writing out his sufferings. The result was the Sorrows of Werther, and the great poet tells us the relief that this gave. Especially when the work lay finished before him he felt free and joyful. In this instance the causes of the poet's satisfaction and relief were probably complex, among them the following: The mere turning of activity into normal channels; the satisfaction from creative, productive activity; the satisfaction of the social instincts; and also, perhaps, as Hirn thinks (23 a), the satisfaction that results from the "sensation of security and support which the beholding of the external form affords."

Dr. Scott (46) lays stress on the function of art as a remedy for morbid fears. In a recent paper he writes:

"Study the art of the old races. What was that art? We do not find the absolutely beautiful things that fill us with love and devotion. You will find among the Egyptians these horrid forms of animals and birds. They are not beautiful. They do not make us fear, but they were made for the purpose of making the worshippers afraid. They were made for the purpose of stimulating these emotions of fear — first stimulating these emotions, and then reclaiming them, making these same devotees feel at one and at peace, and worship the powers of which they had formerly been afraid.

"By overcoming an old fear you take a step higher. Very frequently you find that, both in children and in animals, the thing of which at one time they are most afraid they come in time to love intensely.

"And in my opinion there is not anything which will more conduce to remove those morbid fears from the constitution than allowing this emotion to run out in motor expressions, in expressions in artistic form; for radiation of energy, and reproduction of energy, is the secret of climbing heavenward."

It is not merely for the dreadful and unusual occasions, but rather for the ordinary, and as a daily habit for the child, that this normal reaction to feeling is important.

The positive side of the hygiene of drawing can be properly appreciated only by considering the significance of this form of motor activity as a means of artistic expression. There is a fundamental impulse in human beings to express feeling in activity; as Hirn has plausibly maintained, art originates in this need for the expression of feeling; and one can understand art only from the point of view of the psychology of feeling. The art activity expresses an instinctive need. It is based upon an innate impulse. It is a form of activity that is self-sufficient,

self-satisfying, worth while for its own sake, autotelic. Although Hirn exaggerates perhaps the rôle of pleasure and pain as incentives to human activity, he probably is quite right in his main theory of the origin of art.

That artistic activity is based upon an instinctive impulse and largely independent of environment is strikingly illustrated by Kerschensteiner's (26) extensive investigation. Among the 58,000 children whose drawings he studied, the best results were not produced by children of artists, painters, sculptors, or architects, and not in general by children from families of the higher class and of greater culture, but rather by children of artisans, often those living in poverty. Five out of seven of the especially excellent drawings of a street car were by children of joiners. The superior representations of men and horses were especially by children of the working and middle classes; and the same was true in general. In spite of all the adverse conditions of the home, these children found opportunity for the exercise of their drawing impulse. "What the children do not find in their own family they seek in the home of a neighbor, in the shops of friendly artisans, in the stores on the street, indeed, in some cases they visit the collections of the most prominent art dealers, and study the great masters. Neither lack of drawing material, nor lack of light and place in their homes, nor hunger and cold, keep them from following the drawing impulse in their souls."

One element in the satisfaction from creative activity is the social significance of the art product. Either consciously or unconsciously the individual always considers his work in relation to others, and an imaginary audience is always present. This is represented, if in no other way, by the individual's critical attitude toward his own work. At the basis of the social significance of the art product is the instinct of imitation.

The facts in regard to the function of imitation have been summarized in a striking passage by Hirn as follows (23 a):

"It is incontestable that the æsthetic activities can be understood and explained only by reference to a universal tendency to imitate. It is also significant that writers on æsthetic had felt themselves compelled to set up a theory of imitation long before experimental psychologists had begun to turn their attention in this direction. In Germany the enjoyment of form and form-relations has since Vischer's time been interpreted as the result of the movements by which not only our eye, but also our whole body, follows the outline of external things. In France Jouffrey stated the condition of the receiving of æsthetic impressions to be a 'power of internally imitating the states which are externally manifested in living nature.' In England, finally, Vernon Lee and Anstruther Thompson have founded

a theory of beauty and ugliness upon this same psychical impulse to copy in our own unconscious movements the forms of objects. And in the writings of, for instance, Home, Hogarth, Dugald Stewart, and Spencer, there can be found a multitude of isolated remarks on the influence which is in a direct way exercised on our mental life by the perception of lines and forms.

"In most of these theories and observations, however, the imitative activity has been noticed only in so far as it contributes to the æsthetic delight which may be derived from sensual impressions. But its importance is by no means so restricted as this; on the contrary, we believe it to be a fundamental condition for the existence of intuition itself. Without all these imperceptible tracings of movements with which our body accompanies the adaptation of the eye muscles to the outlines of external objects, our notions of depth, height, and distance, and so on, would certainly be far less distinct than they are. On the other hand, the habit of executing such movements has, so to say, brought the external world within the sphere of the internal. The world has been measured with man as a standard, and objects have been translated into the language of mental experience. The impressions have hereby gained not only in emotional tone, but also in intellectual comprehensibility.

"Greater still is the importance of imitation for our intuition of moving objects. And a difficult movement itself is fully understood only when it has been imitated, either internally or in actual outward activity. The idea of a movement, therefore, is generally associated with an arrested impulse to perform it. Closer introspection will show every one to how great a part our knowledge, even of persons, is built up of motor elements. By unconsciously and imperceptibly copying in our own body the external behavior of a man, we may learn to understand him with benevolent or malevolent sympathy. And it will no doubt be admitted by most readers that the reason why they know their friends and foes better than they know any one else is that they carry the remembrance of them not only in their eyes, but in their whole body. When in idle moments we find the memory of an absent friend surging up in our mind with no apparent reason, we may often note, to our astonishment, that we have just been unconsciously adopting one of his characteristic attitudes, or imitating his peculiar gestures or gait."

Thus imitation is essential for the appreciation of art, and only by developing the possibility of imitation can one develop an interest in art. The significance of artistic interests for hygiene is only less in degree than the possession of artistic

talent; both alike presuppose a habit of motor reaction. Both alike have social value.

It is noteworthy that the products of the child's spontaneous motor activity, especially its plays and its drawings, are the protocol of its interests. The significance of drawing as a means of expressing thought and feeling is shown very clearly by the spontaneous drawings of children, the drawings of primitive peoples, and by drawings made by the insane. (37.) Levinstein (30) rightly points out that drawing is a form of speech, and "by means of drawing," he maintains, "one could often learn far more of the actual content of the child's head than by writing and speaking." Kerschensteiner (26) finds differences in the sexes, differences between country children and city children, and a striking correlation between the general ability and intelligence of children and their artistic ability as shown in drawing. It would be of great hygienic as well as pedagogical advantage if, during the first eight or ten years of life, children could be left largely to their spontaneous activity and the product of this kept as a record and index of their interests and capacities.

Thus drawing has a threefold significance: first, as a form of normal reaction to feeling; second, as giving the satisfaction that comes from productive activity and social expression; third, as developing an interest in art through the possibility of imitation. From the ordinary point of view of hygiene this is vague; but the psychiatrist, and the teacher who appreciates the importance to health of a normal life of feeling, of the satisfaction from successful activity, and of the balance that results from culture interests, cannot fail to see the positive hygienic significance of drawing and similar forms of artistic expression.

Statements are sometimes made to the effect that drawing is the natural means of expressing thought for all children. It is doubtless true that it is a means of expressing thought and feeling for many children, but clearly for many other children it is no more so than paper cutting, or clay modeling, or perhaps some other motor activity, such as running, pantomime, and the various forms of dramatic impersonation. In motor training, as well as elsewhere, there should be adaptation to the individual.

Drawing is discussed here as a typical form of artistic expression, but the same principles would apply to other means of expressing thought. It is noteworthy that the ancient Greeks had one and the same word, γράφειν, to signify drawing, engraving, writing, etc. (30). All are related forms of motor activity, all are means of expressing thought, and the hygiene of drawing is largely the hygiene of motor activity in general.

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A MODERN BABEL.

By HARLAN H. BALLARD, Berkshire Athenæum, Pittsfield, Massachusetts.

On August 27, 1906, President Roosevelt sent to the Public Printer a list of 300 words and ordered him to direct that thereafter in all Government publications of the Executive Department those words be spelled as therein set forth.

The President added, "There is not the slightest intention to do anything revolutionary, or to initiate any far-reaching policy," and for the reasons for his order he referred the printer to Circulars 3, 4, and 6, issued by the Simplified Spelling Board of New York City.

If the reasons set forth in these circulars had been incorporated into a preamble, the order would have read: "Whereas the present spelling of our language is unscientific, irregular, and irrational, and whereas the study thereof imposes so intolerable a burden upon children and foreigners that an entire year of their school life is wasted; and whereas the printing of silent letters causes an unnecessary annual expenditure of millions of dollars, therefore direct that hereafter in all government publications of the executive department the 300 words contained in Circular No. 6 of the Simplified Spelling Board be spelled as therein set forth."

The contrast between the greatness of the evils alleged and the simplicity of the remedy proposed led to an examination of the list. It seemed incredible that any one could have selected 300 words whose present spelling in the publications of the executive department could be held responsible for the loss of a year in the school life of American children, for the imposition of an intolerable burden upon foreigners, and for an annual waste of millions of dollars. The wonder was increased when it appeared that, of the 300 words in the list, 153 were already in preferred use by the Public Printer, as he distinctly stated in his letter of Sept. 4, transmitting the President's order, and that forty-nine of the others were already used by the Public Printer whenever requested.

Thus the President changed the spelling of only 98 words. An examination of these 98 added to our surprise, for we found that less than 30 of them could by any ordinary possibility be used in an executive communication. The others, including

mamma, coquette, apothegm, cutlass, decalogue, exorcise, phantom, gazelle, hiccough, prologue, rhyme, scimitar, woe, woeful, caressed, blushed, blessed, cursed, chapped, winked, clasped, kissed, æsophagus, æolian, etc., are of a nature quite foreign to documentary requirements. Furthermore, of the 30 words remaining, eighteen are simple and easy to spell in their present form, and the only change in their spelling consists in the substitution of final 't' for 'ed.' Indeed, the present spelling of these words is the easier, for it follows the rule of adding 'ed' to the present tense of a verb to form the past. When a child has learned the rule, and has learned to form 'hunted' from 'hunt,' 'cooked' from 'cook,' and 'taxed' from 'tax,' it will be easier for him to write 'looked' rather than 'lookt,' and 'mixed' rather than 'mixt.' The new forms introduce exceptions which must be learned by rote, since no reason is given for changing these particular words, and leaving unchanged all others of a similar character. So far, then, as the 202 words already authorized by the Public Printer, and the 60 or more which he can never have occasion to use, are concerned, the President's order seems to have been unnecessary; and so far as the words which are changed by the substitution of 't' for 'ed' in words which are actually easier to spell in their present form are concerned, it seems rather to aggravate than to relieve the evils which it proposes to remove.

Only twelve words remain, or if we consider words derived from the same root, as thorough, thoroughly, and thoroughfare, as really one, only five, viz., though, gauge, surprise, through, and thorough. But in these five words, as indeed in nearly all of the 300, there appears a perplexing inconsistency of omission and inclusion. Of all the words ending in 'ough' why should only three be changed? Why should the Public Printer spell 'though' 'tho,' and not 'furlough,' 'furlo?' Why 'thoro,' and not 'boro?' Why must 'through' be spelled 'thru,' while 'who' remains authorized for who? Why is the Public Printer required to spell 'kissed,' which he will never use, 'kist,' but left without authority to spell 'taxed,' which he must frequently use, 'taxt?' Why required to print 'carest' for 'caressed,' when he will never want to print it either way, yet not permitted to print 'redressed,' which he may need to use, 'redrest?' Why insist upon 'deprest,' which is not found in documents, and not authorize a similar spelling for 'assessed,' which is continually found in documents?

The only man in America, qualified by linguistic ingenuity to put the President's order into successful execution, is Mr. Dooley, of Chicago. He alone could devise a way to work the words of that list into a public document. His first official

communication might, with apologies to Mr. Dunne, run as follows:

"The White House,
Washington, D' ye see?

Me deer Hinnessey:

Me furrst act after bein' appinted Seckretry to the Prezident, was to reckymend me auld frind Hinnessey for Liberian o' Congris.

"Phwhat kin he do?" says the Prisedent? "Phwat *is* he?"

"He's a fanatick" I says, "a fanatick spelur like meself," I says,—"and fanaticker." "He can lave out more letthers from where they do belong," I says, "and introjuice more, and quarer wans, where they hadn't orter be," I says, "than any man in the whole Simplified Boord," I says.

"Appint him," he says, "but raymimber when you write to him officiously," he says, "y'ar to spell 'mamma,' 'mama,'" he says.

"She's long dead," I says, "and maybe I wouldn't have to mintion her, officiously," I says, "an' we used to spell her 'Mither,'" I says, tears springin' to me eyes.

"There, there," says he, soothin'ly, and throwing his arrm around my neck in his impulsive way, "the nu way o' spellin' will coom aisy to ye, wanst ye undertand th' idee."

"Phwat's the idee?" I says.

"See Cerculars No. 2, 3, and 6," he says.

"So I did," I says, "but I can't make out from them," I says, "how the childer," I says, "and the eyetalyans," I says, "wil be relayved of their intollerable burrdins," I says, "by the way I spell the words I don't never use," I says.

"That's the very idee," says he.

"Phwat's the idee?" says I.

"This"—says he:—"Y'ar to spell all the words ye don't have to write," he says, "in the Carnegee shtyle," he says, "so's to kape the ould gentleman aisy in his mind," he says, "an' libral in his conterrhybushins," he says; "an' all the wurrds ye do have to to use," he says, "ye must just kape on spellin' them," he says, "as ye durn pleeze."

"We don't wahnt to do anny thing farr-rachin," he says, 'nor suddin,' he says, "nor vilint."

"But these silent letters are terrible wasteful," he says, "and ixpensiv."

"We must econymize," he says, "on them 300 wurrds we nivir use," he says, "and save our money," he says, "for to dig the Panama Canal an' to build the biggest battle-ship in the wurrld," he says. "Think of Japan" he says, "an' the ixpinse of the new spellin' refawm circulars," he says.

But I must close this letter Hinnissey; and I persayve that I

have not as yet worked in all the nu spellin's fur ye. I must spell some of them, annyway, or I'll lose me job.

So I inclose a civl sarvis ixamination paper, which I have prepared for ye.

The civil ixaminers have adopted the nu rules, so's to be civil to the Prisident, but they haven't had toime to larn the 300 worrds. So they tolt me make the paper fur them.

If ye answer with your ushil intelyjunse, its Libraryan y' ar.

1. Has the Pedobaptist kist the coquet?

2. Who is the author, (*a*) of the Husht Hiccup; (*b*) of the Enamored Esophagus."

(Confidenshil.) I thaught there wad be an 'f' in that word, same as 'fantom,' but the Prisident axed me was I doin' his thinkin' ferrim' or his ritin'? So I says, "Anny one, even tho he was a way-faring man," I says, "an' a fanatic," I says, "wud no that if "f" goes in 'fantom,' by the same token," I says, 'ph,' should go in 'Esophagus,' I says, "and 'phanomenon.'"

"I'm *dee*lited wid your quicknis," he says, "an' pinitrayshin. Yo' ought to jine the 'spellin' Boord." I held me tung. I nu the Boord was only takin' in Dictionary men, an' figgerheads,—but I held me tung. (But to rayzoom.)

3. In what era was Eolian born?

4. How can a libry exorcize the esthetic hypotenuse of an anesthetic pedagog?

[Confidenshil.] "If anny o' thim wurrds is t' much fer ye, Hinnissey, raymimber ye can lave thim out. The Commishin marks ye highest on the wurrds ye don't use. Put in them ye noes how to spell, and say in a foot-note:

> I accept the 300 tho sum wan has blundered.
> Into the jaws of Dith, into the mouth of Hell;
> Thim's the three hundred;"

That'll pass ye thru all right.

Having proceeded thus far with my study of the President's list, it seemed to me that, if it were designed for the guidance of the public printer, issued in the hope of curing the evils set forth in circulars 3, 4, and 6; and if it must be accepted as a single and final list, limited and defined by the voluntary and emphatic declaration: "It is not an attempt to do anything far-reaching, or sudden, or violent," it was unnecessary, redundant, contradictory, inadequate, and ridiculous.

By this reasoning I was convinced that the order did not originate with President Roosevelt.

In order to be certain, however, I addressed the following question to the Secretary of the Simplified Spelling Board: "How did you succeed in enlisting the co-operation of the

President?" The reply, dated Nov. 27, I now quote: "I know somewhat of the proceedings antecedent to the President's order of Aug. 24, but the entire narrative is not in a form for publication at the present time. There was a little campaign."

That the President was ill-advised I am satisfied; but that under the circumstances he yielded to solicitation I neither wonder nor seriously regret. It brings the question before the people, and draws attention to the Spelling Board. Now the first thing that strikes us about this board is that this is not a 'board' at all. A board is a "number of persons organized and constituted under the direct authority of law for the stated performance of some designated official function, as a board of health." This definition is taken from the Standard Dictionary published by one of the most prominent members of the "Board." To settle this question, I addressed a point blank inquiry to the secretary, who replied, Nov. 23, 1906: "It originated in a group of members of the Spelling Reform Association, also members of the Am. Philosophical Association, . . . and other bodies. . . . They formed a committee, received, after prolonged effort, the requisite promise of financial support, and thus formed the S. S. Board. It may be regarded as an *independent campaign committee.*" Whether the old "Spelling Reform Association" changed its name to "Simplified Spelling Board" with the purpose of leading the public to suppose that it was acting under official government sanction, I do not know. Nor do I know any other reason for the change.

The members of the Simplified Spelling Board are the following:

Brander Matthews, professor in Columbia University, *Chairman.*
E. Benjamin Andrews, chancellor of the University of Nebraska.
O. C. Blackmer, publisher, Oak Park (Chicago), Ill.
David J. Brewer, justice of the Supreme Court of the United States.
Nicholas Murray Butler, president of Columbia University.
Andrew Carnegie, New York.
Samuel L. Clemens, New York.
Melvil Dewey, lately director of the New York State Library, Albany, N. Y.
Isaac K. Funk, editor and publisher of the Standard Dictionary.
Lyman J. Gage, ex-secretary of the treasury, New York.
Richard Watson Gilder, editor of the Century Magazine.
William T. Harris, commissioner of education, Washington, D. C.

George Hempl, professor in the University of Michigan.
Thomas Wentworth Higginson, Cambridge, Mass.
Henry Holt, publisher, New York.
William James, professor in Harvard University.
David Starr Jordan, president of Leland Stanford University.
Thomas R. Lounsbury, professor in Yale University.
Francis A. March, professor in Lafayette College.
William W. Morrow, U. S. Circuit judge, San Francisco, Cal.
Homer H. Seerley, president of the State Normal School, Cedar Falls, Iowa.
Benjamin E. Smith, editor of the Century Dictionary, New York.
Charles E. Sprague, president of the Union Dime Savings Institution, New York.
Calvin Thomas, professor in Columbia University.
E. O. Vaile, Chicago, Ill.
William Hayes Ward, editor of the Independent, New York.
Robert S. Woodward, president of the Carnegie Institution.
Charles P. G. Scott, etymological editor of the Century Dictionary, New York, Secretary.

To the mind of the average citizen this list of names is the strongest argument in favor of the changes proposed. This argument the Board itself urges even to the verge of arrogance. In an address before the National Educational Association, Secretary Scott said: "The deliberately formed opinions of all qualified scholars are on the side of spelling reform." Again he said: "Those who understand the matter approve the proposal." Members of the board have gone so far as to say that not a single intelligent argument can be brought against their proposition.

Then, neither Lindley Murray, nor Richard Grant White, nor Archbishop Trench, nor Professor Earle of Oxford, nor Professor Münsterberg of Harvard, nor President Eliot, nor the editor of the New York Tribune, nor any one of the 32 out of the 36 members of the Board of Education of New York City who, on Nov. 28, 1906, voted against the innovations of the board, is a qualified scholar.

Public assumption of exclusive wisdom invites personal scrutiny. If these gentlemen are entitled to speak 'ex-cathedra,' there can be no discussion. But are they? In the first place they are divided in their counsels. President Jordan has already resigned his membership from this cause. Mr. Clemens has published a paper declaring his inability to agree with the simple alterations ostensibly advocated by his colleagues, and urging upon the Associated Press the immediate and radical reconstruction of the English language upon a phonetic basis. Brander Matthews, on the other hand, has published a letter

in the 'Outlook,' in which he asserts with some vehemence that he has been misunderstood, and that he is not in sympathy with any far-reaching purposes of revision.

Professor March, again, and Mr. Funk, and Secretary Scott have for years been advocating the most radical changes in our language, even to the introduction of a new or modified alphabet.

Nor do the gentlemen named in the list impress us so deeply when considered one by one, as when they stand before us in a serried, though discordant phalanx. Mark Twain is, first of all, a genial humorist. We refuse to take him very seriously. Mr. Carnegie has been induced to lend his name and to give his money, only after "prolonged effort." Mr. Dewey has long been known as an enthusiast. Only a few years ago he spelled his own name phonetically. Mr. Funk published, about a year ago, a book entitled "The Widow's Mite," devoted to the narrative of certain spiritualistic seances in which he believed that he received, through a female medium, a communication from the ghost of Henry Ward Beecher. He certainly deserves to be associated with the author of 'Innocents Abroad.' Several of the other members of the Board have been for many years, some of them since 1876, so ardent and radical in their advocacy of phonetic spelling, that they are generally known as "Spelling Cranks," and the vagaries of the Reformed Spelling Association have been so often and so rudely rejected by the American people, that its reappearance under a modified name creates only a wearied amusement. It might also possibly detract somewhat from the weight which the names of men so distinguished in letters ought to carry if any large proportion of them should appear to be in a position to derive pecuniary benefit from the success of the cause which they advocate. Ten of their number are either proprietors or editors of the Standard Dictionary. Three others are connected with the Century Dictionary, and at least three more are editors-in-chief of other dictionaries. One or two of them have written revised spelling books. Their circulars look like progressive advertisements of their dictionaries. At all events, the board has no authority.

That the list of 300 words was not primarily intended for government use, but for the general public and for schools, is evident not only from the character of the words in it, but also from the wording of the circular in which it first appeared, and from the action of the spelling board immediately after its publication. Circular No. 7, issued Sept. 27, opens with a renewed promise of conservatism and this alarming sentence: "The Simplified Spelling Board holds that its most promising field of work is in the schools." Later it says: "Teachers in

all parts of the country have welcomed the list of 300 words." "Teachers understand that there is nothing radical or violent in this first list." The entire circular is devoted to the school propaganda. Circular No. 8 followed on Oct. 8, and is headed "Simplified Spelling and the Universities."

Now from this point of view the list loses much of its absurdity. The majority of words in it still seem superfluous, because they are already in general preferred use in the schools, just as they are in public documents; the unexplained inclusion of a large number of words rarely if ever used still perplexes us, but most of the words are less ridiculous when offered for general adoption than when proposed for documentary use. Children and foreigners do use the words 'mamma,' and 'kissed,' and 'winked,' though not often 'eponyme,' or 'pædobaptist.' The inconsistencies of omission and inclusion are not relieved. Even a child knows that if he is commanded to spell 'crushed 'with a 't,' it is only fair to let him spell 'rushed' with a 't.' But although the list is not now so absurd, it is more menacing than before, and the threat which it contains appears in the fact that it has been cleverly and insidiously compiled to serve as an entering wedge to a far-reaching and violent revolution in the form and structure of the English language.

Precisely what the spelling board repeatedly volunteers to proclaim that it is not, precisely that it is. Its underlying purpose is the very purpose which the board repeatedly volunteers to disclaim. I submit the following evidence:

1st. The incompleteness and inconsistency of the 300 recommendations. If the list is final it is absurd; if it is preparatory it is insidious. The gentlemen of the spelling board are not stupid.

2nd. The language of the nine circulars already issued confirms this view. Admissions which are perhaps inadvertent, are frequent. I quote a few of them:

The title of Circular No. 1 is "A First Step." The opening paragraph insists that the only thing which prevents English from becoming the dominant language of the world is its "intricate and disordered spelling." The next adds that our present spelling "keeps our children from one to two years behind the children of Germany," and that the printing and writing of useless letters "wastes every year millions of dollars." The changes proposed are quite inadequate to remedy so great evils. Further on we read: "Plans for a campaign which will extend over a number of years have been formed." "The recommendations of the board will be announced from time to time." In this preliminary circular the board "desires merely to ask those who sympathize with its aims

to *take a simple initial step.*" These 300 words are "not the complete list."

In Circular No. 2 we read: "There are in this list (of 300) about 40 distinguishable classes of words. Certain large classes are, for the sake of brevity, omitted from the present list." Twenty of the classes included are specified, beginning with: 1. Words spelled with 'œ.' Rule, drop the 'o.' Example, Esophagus. 2. Words spelled with 'ph,' or 'f.' Rule, choose 'f.' Example, 'fantom.'

In Circular No. 3 Professor Calvin Thomas says: "Let literary men be brought to see, by an infinite series of slight shocks that spelling was made for man."

In Circular No. 4 Dr. Brander Mathews, after an introduction in which he protests over and again that the Board is going to refrain from all radical suggestions, drops this remark: "Slowly and steadily without haste, without rest, it [the Board] will try to win acceptance for many little simplifications inconspicuous and unimportant individually, but collectively putting our spelling in a position to take a longer step in advance whenever the public has been prepared to consider this favorably."

In Circular No. 6, after a page of the usual assertions that nothing 'radical' is proposed, we come upon this: "The Board has not yet proposed any innovations of its own;" and later, "But the Board will in due time make suggestions of its own," and later, "The Board does not pretend to be consistent" in the spelling of its own publications. This spelling "is made to conform to the lists, *or rules* (sic), the Board may have adopted up to the date of issue." "Until all of the old spelling is improved, some of it will remain unimproved."

Most significant, after all, is the list itself. First we have in it more than 150 words already in popular use. "Why, yes, if the board wish us to spell honor without a 'u,' we will not object, that's the way we spell it now." Those words which at first we thought superfluous, are simply the grease on the wedge. After these words come the 70 in 't' for 'ed.'

Well, they are pretty easily swallowed, if a man shuts his eyes, for such spellings can be found here and there in Milton and in Shakespere, and everybody uses them now and then as contractions.

But the rest of the words in this list have been selected so as to serve as illustrative *examples* of far-reaching, radical, and violent *rules*, which the Spelling Reform Association formulated years ago, and which it has long been vainly trying to cram down the throats of the American people; and furthermore, such words have been selected for this purpose as are least likely to arouse opposition.

Take 'phantom' for instance. No one cares particularly about that. But there are in the English language more than 2,500 words beginning with ph, and thousands more middling, or ending in ph. Once 'fantom' is officially adopted for the sake of simplification, who can logically refuse to adopt 'filosofy,' and 'fotograf.' Like the fisherman's genie, this innocent-looking 'fantom' rises from the earthen jar of the Board's diplomacy until it fills the sky with menace.

Then take 'rhyme.' How cleverly chosen! This is one of a few words whose later spelling has obscured its earlier form. 'Rime' is actually a going back to first principles. Moreover it matters little to the day-laborer or the man-about-town what we do with it. But its adoption will open a crack for nearly a thousand other words beginning like itself with 'rh,' and once we authorize 'rime' we must write 'rubarb' and 'rumatism,' etc., *ad finem*.

Moreover, this word serves also as typical of all words in which 'y' is pronounced like 'i', and its adoption would leave us without logical ground for refusing to adopt 'time' for 'thyme,' 'tipe' for 'type,' and so on.

Once more take 'apothegm.' In itself of small significance to the child or foreigner, it represents the large class of words which contain a silent consonant.

Absurd as the list at first appeared, it has now, I think, become evident that there is method in its absurdity.

How far reaching its apparently simple simplifications really are appears from a consideration of the effect of changing the spelling of any one of the forty classes of words of which it is so artfully composed.

Take, for example, the change of final 'ed' to 't.' This change not only affects our spelling, but interferes with our music and our poetry. Instead of the "Blessed damozel" Rossetti's poem must become "The blest damzel." Instead of "Out damnèd spot," Lady Macbeth must exclaim with unrhythmical profanity, "Out damd spot."

Shakespeare's 'Painful warrior famousèd for fight,' must hereafter be merely "famoust for fight."

Passages of scripture endeared by solemn and sacred associations must be robbed of their charm:—we must say not "Blessèd are they that mourn," but "Blest are they that mourn." More than this, the grammatical structure of the language is to be shaken. It may not seem sudden or violent to substitute 'walkt' for 'walked,' but how about the second person singular of the past tense in that elevated form which we use in prayer and worship?

"When thou wast young," says the Evangelist, "thou walkedst whither thou wouldest." If 't' be substituted here for

'ed,' the word 'walkedst,' becomes 'walktst,' and is unpronounceable. Try to pronounce in the amended spelling "Thou vextst thine enemies."

Again, note the confusion which must follow the dropping of a silent consonant from the root or stem of a word. If we write 'sin' for 'sign,' that is by no means the end of the matter. We have yet to deal with the rest of the family, signal, signet, signify, significant, signature, signatory, etc., in which the g is *not* silent.

Shall we cut the g from sign, and leave it in signal? the g from phlegm, and not from phlegmatic? the n from damn, and not from damnation? Shall 'n' go from autumn and stay in autumnal? be removed from hymn, and left in hymnal?

Yet if we drop it in all such words we alter the very substance of the language, obscuring our derivations, and entirely changing our pronunciations: sinal, flematic, damation, autumal, and hymal, would be new and bastard words. Is not this a far-reaching and violent change?

The effect upon the construction of our laws and statutes may be inferred from the confusion already caused by the change of one word in the President's list. An official order was issued affecting 'past' commanders of the Navy. But it seems that there were also 'passed' commanders, who were not all the same persons; and the order had to be referred to the President for elucidation.

Conclusive as this reasoning seemed to me, the results were so startling, and the purposes hidden under the innocent face of this introductory list appeared so sinister and far-reaching, that before denouncing it I wrote to the Spelling Board under date of Nov. 24, as follows: "What is your ultimate aim? After securing the adoption of the 300 words, and of the rules upon which that spelling is based, and the revised spelling of all other words affected by those rules, will it not be necessary to press for the addition of a few new or modified letters to our present phonetically incomplete alphabet?

If we had *carte blanche*, would we or would we not, substitute a scientific, complete, regular, and rational phonetic language for our present English conglomerate?"

I received the following reply:—"Certainly the movement will not stop where it is. There must be simplification, regulation according to the analogies of English spelling toward the ideal phonetic standard. If you and I were given *carte blanche*, with an assurance of the acceptance of our recommendations, we should recommend a scientific phonetic spelling. With a sufficient motive, as necessity or high compensation, you and I could be reading Tennyson or the Bible in extreme

phonetic form, with entire ease, in twenty-four hours. But it would gravel the general public."

If any further proof be desired, it may be found in the less diplomatic but more radical efforts of the Spelling Reform Association, of which the present board is an offshoot, from 1876 to 1902. They then offered a first list of nearly 3,000 words, and they devised and attempted to secure the adoption of a phonetic alphabet.

Some periodicals, and I think some schools, accepted even this extreme measure, and I have several papers printed in it. Text-books were prepared by members of the Board, in this strange form.

What was aimed at in 1876 is the aim in 1907. Aided by the $100,000, and the Scotch "canniness" of Mr. Carnegie, the method of attack is now changed from an open charge to an ambuscade.

The question for us to decide is not, therefore, whether we will favor a harmless and benevolent attempt to amend the spelling of a few uncouth and unusual words, but whether we are willing to surrender our entire heritage of English speech and literature into the hands of a self-appointed committee, with power to lead us blindfolded into the mazes of so intricate and extreme a phonetic wilderness as, to use their own expressive phrase, will "gravel the general public."

I have shown that the Simplified Spelling Board is responsible for the list of 300 words, and that the ultimate aim of that Board is to change the English language to an extreme phonetic form.

Such a change, as Mr. Richard Grant White has already shown is, 1st, Unnecessary, 2nd, Undesirable, 3d, Impossible.

It is unnecessary because our present spelling is no more difficult to learn than the new, and because, in the opinion of Professor Hugo Münsterberg, with whom I fully agree, it is easier now than it would be then.

It is unnecessary, also, because, although printing silent letters is somewhat expensive, any troublesome expense can better be saved by printing fewer circulars and books than by omitting silent letters from those we do print.

If the Spelling Board would refrain from printing and distributing its literature for a few years it could save enough to enable us to keep the 'ph' in 'phantom' without danger of national bankruptcy.

Unnecessary, finally, because we already have a better and completer phonetic language at our command than the Board could construct; I refer to our current stenography. For all cases requiring unnusual expedition and facility we resort to short-hand. Its alphabet is vastly simpler and more graceful

than that of the reformers. It can be written in one-half the time and printed in one-half the space required by theirs; and it is unobtrusive; ready to serve when called upon, but never insistent when not required. Then, if we need a universal code, there is Esperanto.

It is *undesirable* because in a great many instances it would conceal the derivation of words from the perception of the man of ordinary education. A single example must suffice. 'Bos'n' is less easily derived from boat and swain, than 'boatswain.'

It is undesirable also because its effect would be to render all books printed in our current spelling as hard to read as the new phonetic language would now be; because being put forward, with no authority to enforce its adoption, it would be used in some parts of the country and not in others. This, as Prof. John Nugent Cleary, has well said, would

"Destroy the unity of elementary education; Cause discrimination between persons educated in different localities; and induce a condition of general disagreement and disorder."

It is undesirable because it would increase the difficulty of learning the language. The new alphabet would contain many more letters than at present. The number of words spelled and pronounced alike would be increased. 'Two,' and 'too' and 'to,' for example would all be spelled 'tu,' after the analogy of the monstrous 'thru;' and this, as Professor Münsterberg points out, would seriously add to the difficulties of foreigners and children. Curious spellings are often easiest to remember.

Again, the new language would not remove the necessity of learning the old. Those who use it must still communicate with those who do not, and all must be able to read the literature of the present and the past.

To the children's present 'intolerable burden' there would then be added the burden of learning also four new and more intricate alphabets (the capitals and lower case letters of the printed and manuscript phonetic style proposed), and a second method of spelling.

The difficulties of children and foreigners would be further increased by the discrepancies which would be created between the spelling of ordinary words, and that of proper names, which latter, as they would require special legislative action, and for other manifest reasons, even the Simplified Spelling Board publicly acknowledges it is hopeless to attempt to change.

How great the confusion from this one cause alone would be, may be inferred from a single example. There are 1,180 names of places in Lippincott's Gazetteer, which begin with the word "New," as New York, New Jersey, Newfoundland, etc., and

in the New York Directory alone there are nearly one thousand names of persons which begin in the same way.

Now the new spelling of 'new' is 'nu.' Will it lighten the burden and help the logical spelling of children and foreigners to force them to learn "nu," in their spelling books, and 'new' in their geographies?

Then, too, observe the inconsistencies which must arise between the spelling of the common and the scientific names of plants and animals. The scientific names are not to be changed. How would this look in our botanies: "*Phlox maculata;* spotted flox," "*Nymphæa*, water-lily, so called because dedicated to the nimfs?"

The reformers cannot reach the uniformity they seek without changing the spelling of the Latin language also. They must change also our present manner of reproducing the spelling of Greek and other foreign words.

It is undesirable, again, because instead of saving money, it would entail expenses which I believe would be greater than its economies. Revised editions of dictionaries, cyclopedias, and text-books would have to be issued at frequent intervals. The introduction of a phonetic alphabet, which is a necessary prerequisite to a phonetic orthography would require the introduction of new type in many styles and sizes into every printing office, and the re-education of printers and proof-readers. All card catalogues would have to be re-made. There would have to be revised editions of the great bulk of the books constituting our English literature. This would cost millions of dollars. Professor Matthews tries to answer this argument by saying that the same thing is being done all the time as books wear out and are replaced by new. Is he not aware that much of this reprinting is now done from stereotyped plates? A revolution in spelling would require the distruction of all these plates and the making of new ones.

Moreover, the recasting of a literature into phonetic form is a different thing from making occasional new editions of a few standard works, without revision or change.

There is also a vast treasure of manuscripts which cannot be reproduced except by photography, and which to those unused to our present spelling would become more and more difficult to read. Then, too, our present spelling is indelibly engraven upon innumerable tablets of bronze and marble. It appears in artistic beauty in the decoration of countless walls, and in connection with costly paintings. Would Mr. Matthews think it an easy matter to change the spelling upon the tomb-stones in a hundred thousand cemeteries?

Yet otherwise, side by side in the same family lot, how incongruous must the new and the old appear. On the father's

headstone "William the Son of Thomas;" on his son's monument, "John the Sun of William."

Who will be the first American to win distinction by erecting a memorial of granite with this inscription "Tu mi Muther?"

Phonetic English is undesirable again, because it would be at the best a machine-made, inflexible and monotonous code, rather than a natural and magnificent language, the outgrowth of our history and of the social, religious, political, poetical, and oratorical aspirations of the race; and because, it would, as already shown, mutilate our grammar, hamper our rhythm, spoil much of our poetry, render much of our music impossible, and destroy our freedom of expression.

It is undesirable, finally, because it would open a linguistic chasm between the United States on the one hand, and England, Canada, Australia and other English speaking countries on the other; for it is not to be supposed that those nations will adopt the recommendations of a New York City spelling club.

But, besides being unnecessary and undesirable, the proposed plan is *impossible.*

First, because there is no agreement, even among the advocates of the phonetic plan, as to the pronunciation of English words. More than two thousand words of "disputed pronunciation" are given in the Standard Dictionary, with their different pronunciations, as spelled in phonetic style by their several advocates.

Among the fifty or sixty gentlemen who have here officially indicated their own pronunciation, are six of the present members of the Spelling Board. They do not agree in the pronunciation of so simple words as 'Christianity' and 'Caricature.'

This is fairly illustrative of disagreements running through the disputed 2,000 words. This list of disputed pronunciations is twice as long as the list of disputed spellings, and the number of ways of pronouncing each disputed word is greater than that of the recorded variations in spelling. The Standard Dictionary recognizes three different pronunciations of 'conduit,' five of 'courteous,' seven of 'breviary,' nine of 'dandelion,' and fourteen of 'violoncello.'

This takes no account of sectional or dialectic pronunciation, such as prevails in New England, Virginia, and the West, nor of the foreign variations included under the word 'brogue'; nor of illiterate mispronunciations, nor of our everyday indolent slurrings or imperfect pronunciations; such as 'independunt' for 'independent.' To reduce all these varieties of pronunciation to one standard is at present impossible. But until that is done, we cannot have a phonetic language.

If it is so important, which I deny, for spelling and pronunciation to be in phonetic accord, it can, in many cases, be done more cheaply, easily, and rationally by making the pronuncia-

tion conform to the spelling, than by changing the spelling to conform to the pronunciation. Would it not be easier and more rational, for example, to teach our children to pronounce "been," "been," and so bring it into harmony with 'seen'; and back to its earlier historic sound, than it would be to change the spelling of 'been,' to 'bin;' which departs from its historic sound, obscures its derivation from 'be;' adds an exception to our rules of grammatical structure, violates the analogy with 'seen;' adds another troublesome pair of words of different meanings, but of the same spelling, and involves the expense of a change in all our text-books?

The tendency of pronunciation is to deteriorate. The stronger vowels are weakened through laziness. Consonants are elided. 'To-morrow,' becomes 'tuhmorrah;' 'singing' becomes 'singin';' 'steelyard' becomes 'stilyerd;' 'handkerchief' becomes 'hankerchif.' Correct spelling is a continual protest against slovenly speech. It is a constant plea for accurate and nice distinction of sound. To establish the principle that spelling must conform to popular pronunciation would be to destroy the unity and dignity of the language.

The second reason for the impossibility of the success of this propaganda is that the people do not want it and will not accept it.

The great mass of newspaper and magazine criticism is adverse. I have been able to find only fourteen magazine articles in favor of it, and fourteen of these were written either by members of the Spelling Board or by those closely associated with them; namely: one in the Independent, by William Hayes Ward, a Standard Dictionary man and a member of the Board; one in Current Literature, by Edward J. Wheeler, a director in the Company which publishes the Standard Dictionary; one in Littell's Living Age, by Professor Skeat, a dictionary man and member of the Board; one each in Scribner's, The Century, and Harper's Monthly, by Professor Lounsbury, a dictionary man and a member of the Board; one by Mark Twain, a member of the Board; one in the Forum, by Professor March, a dictionary and revised spelling-book man and member of the Board; one each in The Century, Outlook, and Bookman, by Brander Matthews, a member of the Board; one in the Critic, by Jeannette Gilder, sister of Mr. Gilder of the Century Company; one by Calvin Thomas, in The Nation, a dictionary man and member of the Board; the fourteenth and last, is by William Dean Howells. So far, as my observation goes, also, all the periodicals which have adopted the new spellings are published or edited by the same gentlemen, or their friends.

It is impossible, finally, because the English is the growth of more than a thousand years; and has taken unto itself from time to time, the best of many other tongues. It is so com-

posite and vast in structure, so infinite in rich adornment, and so manifold in forms derived from distant sources, that to make it over into a scientific system to suit the philological theories of a subsidized coterie of technical linguists is beyond the power of any man or body of men. A distinguished philologist after many years of effort along this line said in the end; "the longer I work after a consistent phonetic system for the English language, the greater the difficulties appear."

It must needs be so. Every word in the language has come to its present spelling for some specific reason, good or bad. In making alterations these reasons must be given a fair hearing.

We recognize a very slow and natural modification in progress in English, as in every other living organism, but we do not think that any society can materially accelerate or guide its evolution.

But, although this violent and far-reaching scheme is doomed to failure like its long line of predecessors, from the Emperor Claudius to the middle ages, and from Ormin, in the 12th century, to the present day, it is, nevertheless, capable of much mischief, and as the editor of the Dial well says: "Its chief menace is directed toward our public school systems. These, too often, are under the control of men prone to favor any change that is tagged as a reform. The mischief that can be done, and has been done, by a city board of school trustees, or even by a single school superintendent, is enormous, and we counsel the friends of English undefiled to be everywhere watchful on behalf of their children, lest they be made the victims of a false educational economy."

I have demonstrated that the list of 300 words originated with an unofficial society, lacking in harmony of purpose and method.

I have demonstrated that the purpose of this society is the violent dislocation of the English language, preparatory to its attempted reduction upon an extreme phonetic basis.

I have tried to show that this plan is neither necessary, desirable, nor possible, but that the partial success of the first part of the programme, *i. e.*, the confusion of our present standards of spelling, is to be feared in connection with some public schools, and that there it may cause mischief. I hope that the present discussion may so emphasize this danger as to confirm us all in the determination to turn a deaf ear to the song of the phonetic siren, and even to cast out from the literature of our libraries, the few deformed spellings which have been sporadically adopted, beginning with 'catalog' and 'program.'

Let no librarian, even though in charge of a Carnegie library, voluntarily bow his head in servile submission to the threatened curse of a Modern Babel.

A STUDY IN INTERESTS.

By Cephas Guillet, Ph. D.

In order to discover my pupils' state of mind regarding various fields of human interest, I put before them twelve subjects representing a wide range of matters and asked them to rearrange these in the order of their preference for discussion and composition. The pupils (of the Toronto "Technical" High School) were enjoined to state name in full and age. I obtained answers from 319, of whom 151 were girls and 168 boys. There was one boy of eleven years; there were three girls and four boys of twelve; 18 girls and 18 boys of thirteen; 31 girls and 38 boys of fourteen; 36 girls and 35 boys of sixteen; 22 girls and 17 boys of seventeen; 4 girls and 4 boys of eighteen, and 5 girls and 3 boys of from 19 to 23 years of age. On account of the smallness of the numbers, I grouped the ages 11, 12 and 13 together, and likewise the ages 18 to 23. To arrive at the position of a subject in the list at a given age of either sex, I added together the numbers indicating its rank given by each pupil of this age and sex, and divided by the number of such pupils: similarly for the boys as a whole and the girls as a whole.

I have plotted curves (not here given) showing how the interest in the different subjects varied from year to year in both sexes. It is striking how entirely opposite and complementary these curves of boys and girls are to each other in nearly every instance. There is almost an entire absence of parallelism. When the interest of the boys in a subject is greatest, that of the girls is least. As the boys' interest wanes, the girls' waxes. There could not be a clearer evidence of the radical difference in the masculine and feminine natures, a difference that is not confined to the body, but extends to the operations of the mind, to the attitude of the soul towards its whole environment.

Below is a table of the amount of sexual difference in interest at each age:

The general increase of sexual difference in interest at the age of fourteen (puberty) is interesting. In certain subjects there is a weakening of the sexual difference at the age of fifteen, *i. e.*, in the sixteenth year, for which I cannot account. Is it because it is a transition period from one kind of interest

	12–13	14	15	16	17	18–23	Total.
1. Plants and animals	.4	2.3	.9	1.3	.3	.5	5.7
2. Earthquakes and volcanoes	0	0	.4	2.6	1.6	.1	4.7
3. Myth or legend	.2	2.7	.3	1.4	1.6	.9	7.1
4. Novel or story of modern life,	1.2	3	.6	.7	5.6	3.2	14.3
5. Life of some great man	1	2.4	.2	3.4	3.1	1.3	11.4
6. Bible characters	2.7	4.6	1.5	2.2	1.1	.5	12.6
7. Great event	1.3	.3	.8	.1	.5	2.7	6.7
8. Voyage of discovery	.9	.3	.9	1.5	3	1.2	4.8
9. Foreign customs	.7	2.7	2.4	2.7	1.3	2.8	12.6
10. Industry or invention	1.4	1.1	.7	3.4	2.3	4.7	13.6
11. Sports and outings	1.3	.6	2.1	.2	.1	4.1	8.4
12. History of some science	1.7	.3	.1	2.2	1.5	1.9	7.7
Total	12.8	20.3	10.9	21.7	22	23	109.6

in certain subjects to another, which makes this year partake less of the more pronounced differences both of the cruder early youthful interest (the interest of early adolescence) and of the more mature interest of the young man or woman, *i. e.*, of later adolescence? This is particularly apparent in the feminine subjects, *myth or legend*, *novel* and *great men*, and the masculine subjects, *industry and invention* and *history of some science*. The earlier sexual difference culminates as a rule in the fifteenth year, *i. e.*, at the age of fourteen. The later sexual difference culminates in most of the subjects in the seventeenth or eighteenth years; but later in three subjects, namely *great events*, *industry and invention*, and *sports and outings*. The number of pupils, however, in these later years (from eighteen on) is very small.

I have made out a chart to show the order and extent in which the twelve subjects appealed to the boys and the girls respectively as a whole. (See page 324.)

It will be observed that there are four subjects for which the girls care very little, namely, Earthquakes and volcanoes, Industry and invention, Plants and animals, and especially the History of some Science. These are all either of a scientific or a practical nature. These subjects are all placed higher in the boys' list: one of them, Industry and Invention, the most practical subject in the list, is placed very much higher, being in fact one of the boys' favorite subjects. The interest in industry and invention exists mainly in the students in the technical science department. The students in the commercial department have evidently little real intellectual interest in commerce: it would seem to be regarded merely as a means of earning a livelihood. The topic, History of some Science, which stands last on both lists, I put before them in order to ascertain to what extent the boys in the science department

Chart showing Rank of Subjects according to the interests of 151 Girls and 168 Boys of a High School.

4		
.1		
.2		
.3		
.4		
.5		
.6	Life of some great man (4.62)	
.7		
.8		
.9		Voyage of discovery (4.94)
5	Customs of some foreign people (5.04)	
.1		
.2		Great event (5.17)
.3		
.4		Sports and outings (5.36)
.5	Myth or legend of ancient times (5.55)	
.6	Novel or story of modern life (5.61)	Life of great man (5.61)
.7	Bible characters (5.72)	
.8		
.9		Customs of foreign people (5.95)
6		Industry or invention (6.05)
.1	Sports and outings (6.15)	
.2	Great event in history (6.19)	
3.	Voyage of discovery or exploration (6.32)	Myth or legend (6.39)
.4		
.6		
.8		Earthquakes and volcanoes (6.89)
7		
		Story of modern life (7.17)
.2		
.4		
.6		
.8		
8	Earthquakes and volcanoes (8.06)	
		Bible characters (8.08)
.2	Industry or invention (8.21)	Plants and animals (8.23)
	Plants and animals (8.35)	
.4		
.6		
.8		History of some science (8.83)
9		
.2		
.4		
.6		
.8		
10		
.2	History of some science (10.22)	

were interested in pure science. And I found that whereas Industry and Invention was placed first by the science boys, the History of some Science was placed tenth. The third year science boys, however, while they also put Industry and Invention first, placed the History of some Science third. All this would seem to indicate that the science teacher should begin with practical applications of the physical sciences. But the beauty and the sublimity of the laws of God's universe should never be lost sight of in the myriad applications of them to man's amusement and comfort and advancement.

Of the first five subjects named in the boys' and girls' lists, two are common to both, namely, Life of some great man, and Customs of some foreign people. An interest in great lives and in strange races is evidently strong in all young people of high school age. Advantage should be taken of this hint that nature gives us of the most ready means of enlarging and ennobling the minds of youth.

It would appear, however, from an examination of this chart, that Great men, Foreign Customs, Myth and legend, Novel or story of modern life, and Bible Characters are, to a considerable extent, characteristically feminine subjects, being placed much higher in the girls' list than in the boys'. On the other hand, the three subjects that head the boys' list, namely, Voyage of discovery, Great events, and Sports and outings, are very much lower on the girls' list, coming considerably behind the five subjects that have been mentioned as characteristically feminine. These boys' themes are all of action, and of action in real life; whereas, in the girls' list, imagination, poetry and the ideal are very prominent. Was not Goethe right when he said, "Das ewigweiblich zieht uns hinan"?

When we come to consider the particular historical events that chiefly arouse the interest of these young people of both sexes, we have to confess a certain disappointment. As great events of history, the battles of Waterloo and Trafalgar, and the Taking of Quebec, dwarf all others in young Canadians' eyes. The French Revolution, the defeat of the Spanish Armada, the War of 1812, the South African War, and the battle of Bannockburn are sufficiently favored to deserve mention. Of the forty events mentioned, twenty-six are wars and revolutions, eight are other political changes, four are reigns (Henry VIII, Mary, Victoria's Jubilee, and Edward VII's Coronation), and two are discoveries, a single vote for each (those of the Portuguese and of Columbus). The events that arouse the widest interest are certainly important: love of country and love of freedom are two of the noblest sentiments of man. But the range of subjects is rather limited, and that "Peace hath

her victories no less renowned than war," has not yet become the conviction of any considerable number of these youths and maidens. With many of them "battles" and "great events" would seem to be synonymous terms; indeed, one boy asked me of "great events" if the great event *had to be a battle*. There is, moreover, scarcely any difference to be detected between the ninety-three answers of the girls and the ninety-three answers of the boys on this point. And this is all the more remarkable when we remember how different this investigation proves the reactions of boys and girls to be in general. Does the explanation lie in the masculinization of the girls in a subject handled by a man entirely from a masculine point of view; and does their knowledge of it consequently arise rather from passive imbibition than from active interest and appreciation? The wisdom of co-education, with all that this usually implies in practice, is by no means established yet. In discussing the subject of great events with the pupils, before assigning it for composition, one can spend an hour very profitably in questioning and cross-questioning them as to their reasons for deeming a certain event great. This inquiry gives rise to a very interesting and stimulating discussion, calculated to leave the pupils better prepared to appreciate the many great events they have ignored, as well as the true significance of many they have mentioned.

It is interesting to note that while the Life of some Great Man comes much earlier than some Great Event in History in the girls' list, the Great Event is placed somewhat before the Life in the boys' list. Boys evidently regard the fact, the accomplishment; girls are more interested in the person. Boys are lovers of deeds; girls hero-worshippers. An examination of the particular men admired reinforces the present argument. In the case of the boys eighty-six per cent. of these are men of action, and only fourteen per cent. leaders of thought; whereas with the girls only fifty-nine per cent. are leaders of action, and forty-one per cent. are leaders of thought; the leaders of thought being in both cases mainly poets. Again, of the men of action a rather larger proportion of warriors is chosen by the boys and of statesmen by the girls; and while the boys mention nine inventors, the girls mention but one. The girls select women in only six cases, although in two of the classes, containing fifty-six girls, I expressly added the words "or woman" to the subject, making it read, Life of some Great Man or Woman. Some might think that there is little significance in this fact, as the number of famous women is small and even these not in the front rank of genius and achievement; and that the girls, therefore, show their honesty and good sense in recognizing this fact. Many of the men they choose, however, are far from being of the first rank. Dickens, Marconi, Wm. Lyon

Mackenzie, Lord Strathcona, and other men of comparatively little note have their votaries among the girls; while George Eliot, Mrs. Browning, Cornelia and Deborah are not mentioned. It is possible that co-education is to some extent responsible for the little interest shown by girls in the great of their own sex. In our returns the women admired by the girls are Queens Victoria, Elizabeth and Boadicea, Joan of Arc, Jenny Lind and Florence Nightingale; Victoria receiving two votes and the rest one. One of the boys also admires Elizabeth. It is not a little disquieting to find that the two men most admired by the youth of both sexes should be Nelson and Napoleon, each of whom receives thirty-three votes, Nelson leading slightly with the boys and Napoleon with the girls. Here the instinct of the boys is truer than that of the girls. If we must have a warrior for a hero, better a thousand times the unselfish patriot than the vain-glorious despot. The girls, however, give as many votes to Tennyson as to Nelson, and almost as many to Scott, while Wolfe stands almost as high in the boys' estimation as Napoleon. The latter have hardly taken seriously Wolfe's noble tribute to the poet Gray before the battle that made him famous. The girls' preference for Napoleon over Nelson possibly indicates a less narrowly racial and patriotic feeling than boys possess. The nine boys who mention inventors are students in the science department, and no one mentions any scientist. They are evidently learning to value the practical application of principles rather than the principles themselves, to admire an Edison rather than a Faraday. There is but a scattering of votes (one or two apiece) for religious leaders, for St. Patrick, Wesley, Luther and Moody; there are three votes for Dante, one for Milton, and one for the musical composer, Wagner. And while, as I have said, there are thirty-three votes for Nelson and thirty-three for Napoleon, there are but three for Livingstone and one for Gordon.

Of Bible characters Joseph is the favorite both with the boys and with the girls, but particularly with the latter. And this is true of all ages up to and including seventeen, except that at fourteen the girls much prefer David. After Joseph comes David, and then Moses. The predominance of these three may be partly, but only partly, accounted for by their exclusive mention in the question as examples of Bible characters. After these by a long interval come Daniel and Paul together, Daniel being especially liked by the boys. Others receive scattering votes. Christ is mentioned by five of the girls but by none of the boys. It is probable that the great majority of the pupils did not regard Christ as included in the question. Sixty of the boys and twenty of the girls failed to name any Bible character.

The position of the subject Bible Characters in both lists,

and particularly in the boys', deserves more than a passing allusion. In spite of the strong natural interest that young people have in biography and in the far-away, the great characters of the Bible, Moses, Joseph, David, the prophets, and the apostles, have much less interest for the girls than the lives of other men, and for the boys have scarcely any interest at all. The subject comes fifth on the girls' list and tenth on the boys'; and to both, Bible characters are far less interesting than the brilliant despot Napoleon. One of the two subjects placed by the boys below Bible characters is a subject of which the majority of them know very little and have been taught scarcely anything; whereas they have presumably been taught the Bible from their infancy at home and in the Sunday School. The science students placed even these two subjects ahead of "Bible characters," placing this last of all. The curves of interest for Bible characters show that this interest steadily wanes in the girls after the age of thirteen, with but a slight recovery in later adolescence. In the boys the decline is decided but less constant, and the recovery at later adolescence relatively more pronounced; though it does not reach even the low point to which this interest falls in the case of their sisters.

These facts are a startling commentary upon our methods of training youth. Is it not evident that parents in general either do not or cannot teach the Bible, and that the Sunday School lessons are altogether deficient in that they fail to give the youth a love for the Bible? Clearly our methods will have to be revised and a more psychological system substituted for the very defective one now in vogue. In a word the science of genetic psychology will have to be applied to the matter before we shall have much improvement in this deplorable condition of religious education. The Bible is a unique record of ethical and religious growth and it should be taught as such to growing youth. And we do not read the signs of the times if we fail to perceive that such training is essential to the stability and permanence of the State. It is inconceivable that a generation trained to appreciate the beauty and sublimity of Hosea's life and thought should wander so far from the true idea of sexual relationship, and in particular of the marriage tie, upon whose sanctity is founded the family and the State. It is inconceivable that a generation trained to admire the consecrated statesmanship of an Isaiah would tolerate the leadership of political and commercial bosses and grafters. It is equally inconceivable that a generation that had imbibed in youth the great hearted catholicity of the book of Jonah (which to most young people as well as old is but a Mark Twain joke) should have presented so sorry a spectacle to the world as the West has exhibited these past twelve months in their selfish and brutal treatment of a magnanimous and sensitive race.

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A HISTORY OF THE QUESTIONNAIRE METHOD OF RESEARCH IN PSYCHOLOGY.

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A large proportion of current psychological literature is based upon data obtained by means of the questionnaire. By many this is regarded as a reliable, scientific method. This consideration alone is a sufficient excuse for the present paper, the purpose of which is: (1) to trace the development of the method, and if possible to find its origin, even though in the attempt we should be led outside of what is, on all sides, recognized as the science of Psychology, and into that of statistics or any other department of knowledge whatsoever; (2) in tracing this development, to point out the various fields of psychological enquiry in which the method has been or is applied. No detailed analysis of the results of the use of the method is contemplated.

First of all our search for its beginning takes us into the history of statistics. The questionnaire is not necessarily a written list of questions. As long as there have been governments and tribes there have been statistics obtained by personal enquiry or by means of a written questionnaire. Perhaps the first body of numerical facts was an enumeration of fighting men.

In 1835 an epoch-making work appeared in France which increased and broadened the interest in statistical knowledge throughout Europe and England. This was Quetelet's "Essai de Physique Sociale," or "Sur l'homme et le developpement de ses faculties." (38.) It was the author's aim to apply the methods founded on observation and calculation to the moral as well as to the physical sciences. This is the beginning of statistics of morals inasmuch as it first takes account of such phenomena as are under the control of man's will. It was translated into German by Riecke (1838), and into English by Knox and Smident (1842). Drobisch, a Herbartian, in 1849 attracted the interest of the scientists of the world to the new science of statistics by an article in "Gersdorf's Reportorium," Leipzig. Finally, in 1864, Adolph Wagner (46) added his powerful influence toward establishing the validity of the statistical method in the study of social phenomena, which of course include voluntary acts in endless variety.

Among the earliest acts of the Statistical Society of London, which was founded in 1838 (the date of the German translation of Quetelet's work), was the appointment of committees to enquire into industrial and social conditions. (30, p. 5.) One of these committees, in 1838, used the first written questionnaire of which I have any record. The committee-men prepared and printed a list of questions "designed to elicit the complete and impartial history of strikes." Earlier than this, however, as in Bristol in 1831 (30, p. 86), house to house canvasses were made to ascertain the condition of the poor. Other committees attempted by the same method, in 1841 and 1842, to determine the state of education among the poor in Kingston-on-Hull.

It is probable that there were some inconspicuous applications of this method at an earlier date than the preceding, for instance, toward the close of the 18th century when the science of statistics began to assume its modern form. Perhaps much earlier than this, for Tacitus tells us that Augustus was the statistician of his 80,000,000 subjects. The ancient Chinese produced elaborate statistical works. It would not be surprising if, in some instances, they collected their material by a method closely analogous to that which we have under discussion. But inasmuch as the questionnaire has been of conspicuous service to Psychology and Education only within the period following the beginning of *Moral-Statistik* with Quetelet, I have thought it would be unprofitable to make a serious attempt at going behind that event.

Edwin Chadwick (10), in 1864, believed that there was a need for knowledge of large groups of children in order to enable school-men to evaluate systems of education. Accordingly he anticipated some modern investigations. He says: "In order to ascertain the results of particular methods of instruction, I sent in some parishes, circular letters to the employers of children, requesting answers to questions as to their experience of them and as to any defaults attributable to education or training for which remedies were needed." He found great differences in the results of teaching among different schools even though the subject matter of the curricula was uniform. The "conditions and manners" of the teachers varied, however, and in this was the secret of the widely differing results of instruction. He proposed a system of school visitation, and declared that from such a plan as he offered "there are already derivable educational statistics . . . . . of a new value to determine the results of educational and training power."

We have no positive evidence that the English statistical work arose from continental influence. It is possible, however, that the translations of Quetelet's work, mentioned above, stimulated investigation in Britain. Neither is there any evi-

dence up to the present that the new science of statistics is supplying a method for Psychology, unless we describe Chadwick's problem as a psychological one, and can show that he was led to it under the influence of statistical science. There is no proof of this further than that the results of his research appeared at a time when the method of statistics was young and flourishing and was attracting wide attention. As far as its time of appearance is indicative of anything, however, it might have been suggested by Berthold Sigismund's "Kind und Welt." The place of this latter work in the development of the questionnaire method will be considered presently.

The method we are discussing was very early applied in the study of childhood.

It was Helvetius' (26) (1715-1771) belief that the genius and the dunce are alike in infancy. The influence of environment in either case produces the final product. If so the genesis of both types is open to observation. Carlyle's suggestion, made a generation later, is, therefore, to the point: "Of a truth it is the duty of all men, especially of all philosophers, to note down with accuracy the characteristic circumstances of their education, what furthered, what hindered, what in any way modified it." (9.)

In 1787 Tiedeman first obeyed the spirit of such a suggestion as this when by systematic observation he gleaned material for a little volume which has been translated into English under the title, "Record of Infant Life" (45). That a strong desire for life histories was abroad at the time is shown in the "Allgemeinen deutchen Bibliothek" (1) (1765-1805), which expressed a wish for a history of all that which has occurred in the soul of a child from its first sensation, or rather from its first movement, to the first use which it makes of its reason. The fulfillment of this wish, it was declared, would spread a brighter light over the ways of the soul than all systems which the philosophers have constructed from the beginning of the world.

All this, together with the interest in children which Pestalozzi had aroused, was sufficient to prepare the way for the work of Berthold Sigismund (1819-1864).

Sigismund was a man of high scholarly attainments. A physician, his health compelled him to give up the practice of his profession. He became a teacher and was always strongly inclined toward the natural sciences, though he made wide excursions into the languages, music, and other forms of art. As a teacher he was interested in children and devoted much of his time to a careful, first-hand observation of their language and movements. Striking individual variations, which appeared to him in the course of these observations, showed the

desirability of wider studies. It is in obedience to a scientific motive that he writes in his introduction to "Kind und Welt"; "I concluded therefore to put together the results of my observations and to send them in copy to several mothers of good judgment, in order to obtain through them a collection of methodical biographies of children, from which, by induction, I might derive those laws of human development for which I had sought in vain in books." (41, p.10.) It was the especial purpose of that little book, as Sigismund says further in the introduction, to create an interest in the special observation and study of childhood. His motive, I have said, was scientific. The method he used and proposed for extended application he regarded as statistical. He says: "Concerning the causes of the early or late unfolding of the mind in particular children, as yet we know nothing at all, naturally, since as yet no one has taken the pains to do the preliminary *statistical* work which is so easily executed. Statistics has in our time done extraordinary things. It has shown how many pounds of flesh a man consumes on the average in England or in Prussia; how long he lives here or there, on the average; how many crimes are committed here or there. If it would also once turn its searching eye upon the development of man!" (41, p.39.) It was Sigismund's wish that a scientific society should be established to apply statistical science to this purpose: the investigation of man's development.

The publication of "Kind und Welt" marks an important epoch in the development of the questionnaire method. In it there is suggested a definite plan for other students to follow. It is not to be inferred, however, that all who employed the method within a few years following, did so under the influence of Berthold Sigismund.

A few years later G. T. Fechner used what seems to be the first questionnaire syllabus applied in the study of adult human psychology. After having observed striking personal differences in memory images and imagination, he determined to conduct a statistical investigation of these images and their individual variations. Enquiries were made (in exactly what form he does not relate) of several well known German scholars, whose names, with an abstract of their replies, are given in the Elemente der Psychophysik. (14.)

This was in 1860. Just seven years later (three years after Chadwick's questionnaire study of educational conditions) Charles Darwin undertook the investigation of a very definite problem by the same method; "Expression of the Emotions in Man and Animals." (12.) The problem was to trace out the genesis of the expression of emotions: is it innate or acquired? It was practically impossible for the author to obtain the data

he needed for the answer of his question by direct observation. He adopted the only alternative that presented itself. Others whom he regarded as reliable observers, at home and abroad, among both civilized and barbarous peoples, made the observations for him, following the directions that were given in his famous questionnaire.

The questions were direct. The respondents were required not to trust their memory but to report only what they observed at the time of answering each question. This requirement, the author says, was fully met by his correspondents. Thus they avoided the serious error which inevitably attaches to reports from memory. One cannot determine from Darwin's discussion of his method in the introduction to his book whether he owes the plan to suggestions from an outside source or whether it is his own device. It is certain, however, that he began his study in 1838, more than thirty years before the publication of his results, and at a time when the statistical method was coming into prominence among scientific men.

Francis Galton applied the method in a new field of Psychology. Two standard works from his hand, and at least one of minor importance, are based upon questionnaire returns. His "English Men of Science" (15), Galton himself tells us was undertaken after he had read M. de Candolle's History of Science and Scientists. (13.) This is a statistical enquiry into the life histories of about two hundred French scientists of the two centuries preceding its publication. The data on which it was based were collected entirely from biographies and society records. It happened that, at the time of its appearance, Galton was working more extensively along a parallel line with the purpose of supplementing his earlier work, "Hereditary Genius." Because of de Candolle's dissent from some of Galton's views on heredity, the little volume, "English Men of Science," was put into print, based upon entirely "new and trustworthy materials." He had addressed copies of a long and tedious questionnaire to scientific men in England for the purpose of obtaining an account of their life histories. The majority of his questions were necessarily indirect. He does not discuss them extensively, neither does he speak of the different senses in which they may have been comprehended by his respondents.

Galton did not anticipate that his method would prove itself so delicate as to show what chances there are that the descendants of a famous physicist will become eminent in the science of physics. He would be satisfied should it show in a more general way that those descendants were likely to become eminent in any field whatever. In this he has apparently succeeded. Th. Ribot, at any rate, says (40) that, in this work, Galton

has succeeded in demonstrating heredity on its most difficult side.

A minor work by the same author appeared in 1888 (16). This was of the same character as Darwin's Expression of the Emotions. It was an investigation of the conditions and signs of fatigue among school children. In this case the questionnaire syllabi were distributed among English teachers. There were no very important results aside from the conclusion that the worry incident to mental work is more productive of fatigue than the work itself, and that break-downs more frequently occur during preparation for a profession than during its practice.

About twenty years after Fechner's enquiry into mental imagery, there occurred another of exactly the same character but more extensive—at least as far as the application of the questionnaire method is concerned. At some length in "Inquiries into Human Faculty" Galton (17) discusses visual memory and mental imagery in general. This chapter is based almost entirely upon a large number of replies to a number of questions that have since become familiar, regarding the imagery of the morning's breakfast table. He had already found that remarkable variations exist in the strength and quality of imagination and of visual memories, and it occurred to him that a statistical enquiry might throw some "light upon more than one psychological problem." Thus it appears that whereas he describes his work as statistical, he aims at Psychology. He does not confine his respondents to reports of their visual images, but they may speak of the auditory, olfactory, gustatory, tactual, and thermal qualities of their mental images as well. His is a less specific syllabus than that used by Darwin in his study of emotions, and those employed by Galton himself in his examination of the natural history of scientists, and of the expression of fatigue. But it enters into introspective Psychology, as Fechner's questions had done before, and, indeed, in at least one instance—when it calls for a full explanation of how far the respondent's mental processes in blindfold chess playing depend upon the use of visual images, and how far otherwise—it requires a delicacy of introspective analysis that can hardly be assumed to lie within the power of those unaccustomed to psychological investigations.

Both Darwin's and Galton's results have amply justified their means. They have made valuable contributions to Anthropology, and Galton especially, to Psychology.

It is probable that the "Inquiries into Human Faculty" had some influence upon the great French physician and writer, Jean Charcot (11). Charcot's scientific interest was very wide. It led him into the same problem with which we have

just now associated the names of Fechner and Galton; mental imagery. He refers to Galton's introduction to the chapter on mental imagery in which variations in memory and imagination are discussed, and adds that in all psychological studies one must defer to experience.

For his own knowledge of these variations, however, he did not depend upon the written questionnaire. Observation by eye and ear was his invariable means of enquiry. Inasmuch as his mode of investigation is that of clinical medicine, it might be called the clinical method of research in Psychology. It is adapted to attacking Psychology from the side of pathology. It investigates any phenomenon presented in an individual of pathological condition which makes it necessary for us to presuppose a peculiar quality of mind.

It is said by Th. Ribot (39) that shortly after Charcot organized the "Société de la Psychologie physiologique," in 1885, the society as a whole undertook to solve the problem of psychological heredity by the method of questionnaire. Charcot himself, however, was concerned in it only as a member of the society and had little confidence in the plan. The returns were found unmanageable on account of their mass and since 1887 they have lain in the dust.

An investigation of habitual movements in writing and drawing by M. Charles Henry (28) is another striking illustration of the application of the questionnaire method to problems in adult human Psychology. It is a question of æsthetics and furnished the cue which led J. Hericourt (29) to study the same problem by means of a more specific questionnaire.

Hericourt asked his respondents for their habitual procedure in tracing a circumference, and, to bring out the connection between each individual's mode of graphically representing figures and his general motor reactions, he required each respondent to add to his reply a few representative lines of his handwriting. Further, in order to make a study of differences in personal error and illusions of sense, each respondent was asked to divide a right angle by eye into four equal parts. He hoped, by this investigation to discover elements which would furnish a basis for the study of writing considered in its connection with the "character of personality." Hericourt, in his instructions to his respondents, insisted upon a very important point; that in meeting each requirement:—to divide a right angle; draw a circle and describe the mode of procedure—draw four radii of this circle from a right angle—give a few lines of natural handwriting—the movements must be made *very quickly*. Otherwise, he believed, he could not discover the habitual procedure but something that is the product of reflection.

A little later than this is an example of a less specific ques-

tionnaire investigation in France, undertaken by the faculty of medicine of Lyons, which was directed by M. LaCassagne (32). The syllabus was distributed through the columns of the Revue Scientifique. The research was intended to be a study of sensation, the quality of memory, and the mode of functioning of the centres of language and ideation. The questions were many and long and the answers difficult even for those who are initiated into psychological research. There were questions designed to bring out the normal or the defective quality of vision and audition; on visual and auditory memory; on memory for tastes and smells; on the manner of thinking, whether by the aid of verbal-auditory, verbal-visual, or verbal-articulatory imagination; on the visual, auditory, or other quality of dreams and hallucinations; on the respondents mental habit—analytic or synthetic. This outline indicates only the ground which the questions cover. It is needless to say that because of the wide range of topics, and the intricate, sometimes vague character of the questions, the proposed investigation was an absolute failure. Not a sufficient number of returns was received to afford a basis for results.

A similar method of distributing questions was adopted by the affiliated English and American societies for Psychical Research (36).

Their question lists are rarely specific. They often consist only in a general invitation to the public, through the publications of the societies, to make any communications they may desire respecting psychic experiences. Thus in the first volume of the Proceedings of the Society for Psychic Research is the following announcement:—"The council desire to conduct their investigation as far as possible through private channels; they invite communications from any person whether intending to join the society or not, who may be disposed to favor them with a record of experiences, or with suggestions for enquiry or experiment." (36, p. 4.) Again, in the same volume, Circular No. 1 entitled "General Work of the Society," we find the following: "We shall be grateful, therefore, to all persons whether members of our society or others, who will *undertake a series* of experiments and will forward the results to us. These results will be collated and summarized, and the whole or a portion of the evidence will be eventually published, together with any general conclusions and observations that may be suggested by it. We must especially urge, however, that those who are willing thus to co-operate with us will accurately record the results of every experiment made; we do not desire selected results." (36, p. 297.)

The committee on spiritualistic phenomena earnestly request similar reports but urge that the respondents should specify

whether the phenomena reported came under the observation of more than one person, and if so, whether their accounts were consistent. An exact description of the conditions of each observation also is requested (36, p. 300).

Ribot says (39) of the French society for Psychic Research that it limits the number of persons to whom questions are sent to twenty-five. The other societies, of which there are several, as at Berlin, Munich, and Stockholm, and the "Société de psychologie physiologique" in France, which has to some extent investigated telepathy, employ no methods different from those which have been mentioned. As W. F. Barrett, then vice-president of the English society, stated in Boston in 1884 (5) the ultimate aim of these societies is to explain thought transference and other phenomena on scientific grounds and not on the supposed supernatural powers of mediums. It is with this ideal in mind that Frank Podmore, in his introduction to "Apparitions and Thought Transference" (35), speaks of the various sources of error in human testimony, and concludes that it is doubtful if we are justified in attaching much weight to the phenomena of telepathic hallucination and clairvoyance "if the alleged observations were incapable of experimental verification." In such a fascinating field of enquiry as this even an indefinite questionnaire is very likely to reap a full harvest of returns from different social strata. For this reason alone discredit easily attaches to the returns and the development of the science of psychology of so-called supernatural phenomena is thereby hindered. Mr. Podmore's attitude is, therefore, especially worthy of a man who claims to belong to the family of scientists. The adoption of this attitude, at least to the extent of applying the questionnaire method, and working up its results with increasing caution, by Genetic Psychologists, marks the progress of this difficult science.

Finally we are ready to speak of this method as it is applied to child study—or Genetic Psychology—in which it attracts most attention among us to-day.

An important early step in this direction has already been mentioned; Sigismund's Kind und Welt. Educational statistics were sorely needed; especially such as should take account not only of the number of children of a given age in and out of school, but of the conditions under which they live and of their stock of ideas. At about the time that Kind und Welt appeared a statistical bureau was founded in Berlin (43) which, in 1862, published a year book of statistics. This publication was temporarily interrupted in 1865. It encouraged educational statistics of all kinds, and those who were interested in computations relating to schools found in it a ready helper.

We have now a series of oral questionnaires covering a wide

range of topics and designed to bring out the contents of children's minds for psychological or pedagogical purposes. The first of these was the work of Prof. Stoy, of Jena, in 1864 (44). A number of children were questioned in his seminary regarding objects in their environment, in order to find not only the extent of their range of ideas, but to arrive at a classification of their interests. This work was carried on for a considerable time, but the results were never published, probably because Prof. Stoy removed to Heidelberg before the matter was in satisfactory condition for the press.

The second attempt was made by the *Berliner pädagogische Verein*. Hartmann (26) is authority for the statement that this work was suggested directly by Sigismund's volume. An anonymous translation (2) of the report, however, attributes it to the influence of Otto Willmann (47) who, in the winter of 1867-1868, lectured on psychology before the *pädagogische Verein*, and one of whose books was read by the society within that season. At any rate, in October, 1869, a circular letter signed by R. Schobert, president of the society, was addressed to all principals of the *Volkschulen* in Berlin. To this letter were appended 75 questions framed with respect to urban conditions in Berlin. It was proposed to discover the contents of the minds of children just entering the schools of the city of Berlin by means of this questionnaire. "It is not at all impossible to investigate the causes—at least partly—to which the dissimilarity of the pupils on the one hand and their similarity on the other may be traced." It was hoped that the answers to these questions would show what related ideas the children possessed. Preliminary enquiries which were made to aid in forming a list of questions showed that a large percentage of urban children have such an inadequate idea of mountain, forest, etc., as to make their instruction difficult, inasmuch as the books and charts in use in the schools at that time were adapted to the needs of rural rather than city children. For this reason the country pupils, when they enter the urban schools, soon surpass their new companions. Of the 84 reports received from school principals in reply to the first questionnaire, thirteen were worthless, and a new list of questions was prepared. This included such as these: How many have brothers and sisters—have servants—have a dog or cat—have a bird—know the colors blue, red, etc.,—have seen a shoemaker—watchmaker—soldier—farmer—pedlar—all at work—how many know how bread is made from grain? In this test fourteen children were present in every case during the quizzing. This suggests the enquiry whether some of the children would not have an advantage over others according as they were questioned last or first. Of the replies to this questionnaire only 1,085 were

thought reliable; 1,153 were open to suspicion. All, however, were used. The work of computation was done by Prof. Bartholomai (4) of the Statistical Bureau of Berlin, who was for many years editor of the mathematical part of Lüben's Jahresbericht, and who later independently published some observations on the results. It was found that boys and girls, home and kindergarten children must be treated differently in school. Girls surpass boys in acquiring those ideas that are most frequently met by young pupils. In general the conclusion was that children were not properly taught in their homes, and that school appliances were ill suited to the scholars in any urban community.

The third study of this kind was made by K. Lange, school director in Plauen, in 1879 (33). As the interest of the *Berlin Verein* lay in discovering what ideas are wanting in the minds of six-year-old pupils, Lange's problem was to find what ideas they possess, because these must furnish the starting point for further education. He says: "It is the sphere of perception especially that is to be most carefully investigated. Far from considering the child's mind a *tabula rasa* the prudent teacher will adapt his instruction to the ideas which the pupils possess, and of them he will make a firm foundation for advanced instruction. He would build upon the sand should he begin by presenting too elementary matter or, should he too optimistically assume that a sufficient foundation has already been laid and teach boldly on that assumption." Further, he says that the school-man is able to work most satisfactorily only when he has at hand comprehensive statistical computations for the purpose of determining what can and what cannot be presupposed when instruction begins.

By the method of oral questionnaire Lange examined 500 pupils of the city of Plauen and 300 from the country schools. He found that the girls had acquired fewer ideas from their environment but that they had a more decided religious disposition than the boys.

This work was the immediate occasion of the study carried out by Hartmann in Annaberg in 1884 (26), although he got his idea originally from Sigismund's *Kind und Welt* — the passage already quoted in which the author expresses his longing for the application of the statistical method to the study of man. This was an examination of 1,312 children aged 5¾ to 6¾ years. Hartmann was working in the interests of a scientific pedagogy. He hoped to establish a good foundation for the first year's instruction and to make possible thereby suitable choice of lesson material such as no text-book at that time presented. He originally had but fourteen questions on his list but later added others from those used by the *Berliner pädago-*

gische Verein in 1869. This work extended over five years, from 1880 to 1884, and the results are published in two editions; the first in 1885, the second in 1890.

While Hartmann was working thus in the Annaberg schools, a similar investigation, begun in 1880, was carried on by President G. S. Hall, in Boston (20). This work was modeled after that in Berlin, but the list of questions, of course, had to be modified to suit the American environment. This was found to be a matter of considerable difficulty but it was executed with great care. The examination was confined to children who were just entering school, and was conducted by teachers of considerable experience in the kindergarten and who therefore might be supposed to be skillful in dealing with children. Proper precautions seem to have been taken in having the teachers report to, and confer frequently with, Dr. Hall. Only three children, instead of fourteen as in Berlin, were present at each examination. The inferences drawn from this investigation are: (1) "There is next to nothing of pedagogic value the knowledge of which it is safe to assume at the outset of school life. (2) The best preparation parents can give their children for good school training is to make them acquainted with natural objects, especially with the sights and sounds of the country, and send them to good and hygienic, as distinguished from the most fashionable kindergartens. (3) Every teacher on starting with a new class or in a new locality, to make sure that his efforts along some lines are not utterly lost, should undertake to explore children's minds with all the tact and ingenuity he can command and acquire, to determine exactly what is already known; and every normal-school pupil should undertake work of the same kind as an essential part of his training. (4) The concepts which are most common in the children of a given locality are the earliest to be acquired, while the rarer ones are later." The work was laborious. It involved about fifty thousand items in all. It confirmed earlier reports concerning the difference in mental content between boys and girls, declared the advantage of the kindergarten child over his companions who entered the schools from the home, and the superiority in equipment of the country pupil over the child from the city. In many ways this justifies itself as a work worthy of attention and imitation. It was undertaken, the author says, principally for its practical application in education.

The large percentage of Boston children who did not possess the ideas sought for is surprising.

In 1883, after Supt. J. M. Greenwood (18) of Kansas City, Mo., had read Dr. Hall's original report of this investigation, which appeared in the Princeton Review, he undertook the

solution of the same problem by the same method of oral questionnaire using sixty-nine questions from Dr. Hall's list. He anticipated that children of six years would be found much better stocked with ideas than Dr. Hall's results would indicate, and indeed his figures do show a much fuller mental content in the case of 678 pupils of the lowest primary class of his city than Dr. Hall found in Boston children. It must be considered, however, that his inquiry was made in March, April and May so that one cannot determine how much of the richer content is due to the school influences of the five preceding months. In questionnaire work the conditions of observation must be as carefully guarded as in other forms of scientific research.

This concludes our account of the oral questionnaire. For the most part it has been used for practical purposes in educational work. We shall now speak of the specific questionnaire syllabus as applied in the study of Genetic Psychology—the form with which readers are most familiar at present.

We have seen that Fechner in his study of mental imagery, Darwin in his study of emotions, and Galton in "Inquiries into Human Faculty," as well as Hericourt in his investigation into the character of hand movements in writing and drawing, used the specific questionnaire. All these were problems concerned with adult human psychology.

As Dr. Hall has said (20), one of the requisites for successful investigation is to have a definite problem in view. It is to him more than to any other, that we owe the development of the specific questionnaire syllabus in the study of children with a view to obtaining the data for a systematic Genetic Psychology.

A comprehensive syllabus for child study published by him in 1887, was found too cumbersome for practical use. Miss Wiltse's study of children's lies (48), which appeared in 1882, is one of the first contributions in America growing out of a specific syllabus.

In an article on the "Moral and Religious Training of Children" (22), Dr. Hall first drew attention to the interrelation of adolescence, education and religion. Another article by Dr. Burnham in the *Pedagogical Seminary*, entitled "The Study of Adolescence" (8), went far in turning the minds of educators and psychologists toward this fruitful but uncultivated field—the psychology of the youth.

These were the beginnings of important articles and books on religious psychology, many of them products of the specific questionnaire. Prominent among these are Professor Leuba's paper on the "Psychology of Religious Phenomena" (34), and Starbuck's "Psychology of Religion" (42).

Such an immeasurable field as is suggested by the terms

"Adolescence" and "Religious Psychology" can be covered only under the condition of organization for the work. In an editorial in the *Pedagogical Seminary*, Dr. Hall (23) in commenting on the organization of the National Society for Child Study, which was founded in Chicago in the summer of 1893, suggests that, since no one alone can cover the whole field, it would be wise for each student who is interested to enter into correspondence with a specialist in one definite subject named by the society, and to work only under his advice. Just a year later Dr. Hall himself, in response to requests from many inquirers, published fifteen specific questionnaire syllabi. This reflects a demand for specialized investigation.

These syllabi were circulated in all parts of the country and over twenty thousand returns were received, not all of which have yet been sifted out for publication. The subjects of investigation for which these syllabi were designed, were as follows:— (1) Anger; (2) Dolls; (3) Crying and laughing; (4) Toys and playthings; (5) Folk-lore among children; (6) Early forms of vocal expression; (7) The early Sense of Self; (8) Fears in Childhood and Youth; (9) Some common Traits and Habits; (10) Some common Automatisms, Nerve Signs etc.; (11) Feeling for objects of inanimate nature; (12) Feeling for objects of animate nature; (13) Children's appetites for foods; (14) Affection and its opposite states in children; (15) Moral and Religious experiences.

Most of the contributions from Dr. Hall and his students in Clark University, including the studies of children's pets, the moon in child thought, the study of children's curiosity, and their attitude toward flowers, belong at one place or another in this classification.

The systematization of this work by the creation of these specific questionnaire syllabi was followed by an editorial in the *Pedagogical Seminary* in which Dr. Hall declares (24): "Our programme is to gradually centre all study of Psychology, Philosophy, Ethics and perhaps other cognate branches about child study. This is not only in accordance with the evolutionary tendencies increasingly dominant in nearly every other field, but it will save the philosophical side of pedagogy from its present decline, and place education for the first time on a scientific basis and be the centre around which the education of the future will be centred."

The contents of the *Pedagogical Seminary* and *American Journal of Psychology* throughout the years following this declaration, show how thoroughly the plan is being carrried out.

Most of this work has an anthropological flavor. Its authors describe it as Genetic Psychology, and it must, therefore, reflect much of the social and private life of primitive man. In

an editorial in the *Pedagogical Seminary* President Hall says: (25) "Closely connected with anthropology is Genetic Psychology and exact and careful child study by scientific observers. . . . Not only is it (child study) repeating stage by stage the history of the laboratory movement, but marking, as it does, the first advent of evolution in the study of the soul, it promises to equal the latter in importance, and to relegate much of the present adult psychology to those pages of history which preserve the aberrations and over-subtleties of vigorous but misdirected minds."

In keeping with what are conceived as the anthropological connections of Genetic Psychology many of those who have made contributions in this field since 1895 have discussed at great length the customs of primitive people, and have pointed out parallels between the behavior of these races and that of children in our own land, at different stages of development. A notable example is Dr. Hall's "Study of Fears" (21).

The more numerous the parallels found in a study of questionnaire returns and of the customs of ancient peoples or of barbarians of to-day, the more plausible is the theory of psychical evolution and of the recapitulation in the individual of the racial stages of development. The theory of mental recapitulation was not boldly stated at the outset of these questionnaire studies in Genetic Psychology, but is more or less in the background of some of the published results of the earlier investigations. In his report on the mental contents of Boston children Dr. Hall says (20): "We cannot accept without many qualifications the evolutionary dictum that the child's mental development should repeat that of the race." Considerably later one of his pupils employed the questionnaire to unearth some evidence on this point. J. O. Quantz, in his study of "Dendro-Psychoses," says (38): "If present circumstances were not a sufficient reason for present thoughts and feelings, then mind must have been, in some period of its evolution, subject to influences which left an impress that developed into more definite forms of instinct or action. It is not to be expected that any of these can be traced with certainty to its source."

In a study of "Hydro-Psychoses," by F. E. Bolton (6), a year later, mental recapitulation is again referred to as a guiding line for teachers, but it has never been claimed, even by the most enthusiastic, that it can be relied upon absolutely. Cephas Guillet, for instance, says in a long and sensible article on "Recapitulation and Education" (19): "It is earnestly to be hoped, however, that even after these recapitulatory stages have been established, it will not be attempted to make a stereotyped curriculum of them. For children show all

kinds of irregularities of development of which the teacher is bound to take account."

A very interesting form of questionnaire investigation is that in which the compositions and drawings of children are compared and sifted for the purpose of discovering their interests and inclinations. This advantage is claimed for the method—that by it the student is more likely to get at the spontaneous responses of the child than by other means. On this point, however, just as in studies by the usual form of the questionnaire, much depends upon the way in which the questions or the task of writing or drawing are presented to the respondents. Among those who have made contributions of material gained by this method are Sophie Bryant (7)—who undertook her work at the suggestion of Francis Galton, and Professor Barnes (3)—the most productive of all.

We have found that the questionnaire method probably had its rise in statistical science; that it was applied first to the collection of mere educational statistics; that Sigismund, in the second place, with a scientific motive, used it in determining the order of mental development in children; that in the hands of Darwin, Galton, and Fechner it has served the ends of Anthropology and of adult human Psychology, and that, finally, its application has been extended to the intricate problems of mental heredity and of Genetic Psychology in general; problems that are beyond the reach of the usual experimental methods. No scientific method has been perfected at a single bound. There is no editorial expression or contribution in those Journals which are looked upon as the especial media for the dissemination of the results of questionnaire studies, to indicate that even the most ardent supporters of the method consider it as an exception to the general rule. Only an impartial critical examination of the material and results of a number of representative contributions will suffice to discover its shortcomings and the full extent of its validity. Certain it is that no other event since the appearance of the *Psychophysik* has so much quickened interest in the science of Psychology as the latest development of the method of the questionnaire.

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A STUDY OF DOLLS AMONG POLISH CHILDREN.

By Madam Anna Grudzinska.
Edited by Theodate L. Smith, Ph. D.

Doll play may be compared with drawing: both teach the child and help develop his mind, eye, and heart. Drawing teaches the child to see and observe; dolls teach him to love, appreciate and take care of others. In the study of doll play the careful mother and educator may find a fertile field for the observation of children's minds, ways, wants and wishes. Several well known psychologists and students of childhood, *e. g.*, G. Stanley Hall, Sully, Queyrat and Paola Lombroso, have turned their attention to doll play and have published valuable studies. In this study, I have made use of a part of the questionnaire upon which the Study of Dolls by G. Stanley Hall and A. Caswell Ellis, published in 1896, was based.

Doll play is one of the oldest forms of child play and is known to have existed in antiquity. The early sarcophagi of the Egyptians, the catacombs of the Christians, the exhumed houses of Herculaneum and Pompeii and the ancient graves of Rome and Athens have preserved not only the bodies of children but also their dolls.

For the present study the following questionnaire was used:

1. Do you like dolls? Do you play with them? Does your doll have a name? Is she good? Do you punish her? How? Is your doll ill sometimes? Do you cure her yourself? What illnesses does she have?
2. Do you sew for your dolls? Do you wash for her? Do you bathe, comb and wash her? How many gowns and hats has your doll? Has she underclothes? Who made these?
3. What does your doll eat? Do you put your doll to bed, cover her up and have her say her prayers? Do you take her out or leave her at home while you are riding, visiting, taking a walk, etc.?
4. Do you prefer fair or dark haired dolls; china dolls or stuffed dolls; large or small dolls; pale or rosy dolls; moving, walking or speaking dolls? Do you like heirloom dolls?
5. Did you ever play with paper, rag, or stick dolls?
6. Is your doll alive? Can she hear and understand? Does she understand that you are angry with or good to her?
7. Do you grieve if your doll is spoiled? Can another take her place?
8. Do you like dolls more or less now than when you were younger? Do you like to have others play with your doll? Name all your different plays with your doll.
9. What do you do with your old and broken dolls? Why do you not continue your doll play?

To this questionnaire 182 answers were received from Warsaw, Kiev, Posen, Kalisch and country districts in various parts of Poland. None of these are from peasant children, though some are from very poor children in the elementary schools in Kalisch, near Warsaw. These children have never owned a bought doll, though they know about and appreciate the luxury of one. Their dolls are made with their own hands, and those who had baby sisters did not seem to care for anything additional in the form of a doll. Few have ever seen any but home-made dolls, and the doll play ceases by the age of ten, not, however, because of the dying out of the inclination, but from the pressure of circumstances, as the following answers show: "I cannot play with my doll, mother does not allow it." "Mother does not wish me to play with a doll. She says I am too old and ought to help her." Yet these and similar answers came from children of nine to eleven years old. The age distribution of the 182 answers is as follows:

Girls from 5 to 6 years,	12	Girls from 10 to 11 years,	25
" " 6 " 7 "	29	" " 11 " 12 "	19
" " 7 " 8 "	34	" " 12 " 13 "	2
" " 8 " 9 "	24	" " 13 " 14 "	8
" " 9 " 10 "	18	Boys " 10 " 11 "	2

The number of answers to each question and percentages are here tabulated:

Table showing number and per cent. of children answering each question.

	No.	%		No.	%
Fond of dolls,	180	100	Prefer large dolls,	80	44.4
Play with dolls,	150	83.3	Prefer small dolls,	20	11.1
Name their dolls,	180	100	Prefer china dolls,	30	16.6
Punish them,	60	33.3	Prefer cloth dolls,	4	2.2
Cure them when ill,	94	52.2	Prefer celluloid dolls,	8	4.4
Name illnesses,	39	21.6	Prefer pale dolls,	27	15.
Sew for dolls,	120	66.6	Prefer rosy dolls,	3	1.6
Bathe them and comb hair,	20	11.1	Prefer heirloom dolls,	150	83.3
Wash underclothes,	97	53.8	Play with paper dolls,	0	0
Doll has frocks,	150	83.3	Doll is alive,	17	9.3
Feed their dolls,	120	66.6	Regret spoiled doll,	75	41.6
Put them to bed,	150	83.3	Replace spoiled doll,	120	66.6
Have doll say prayers,	6	3.3	Less fond of dolls,	94	52.2
Take doll to walk,	17	9.3	Does not like to lend doll,	134	74.4
Leave doll at home,	115	63.8	Tell what they do with spoiled dolls,	49	27.2
Prefer fair haired dolls,	150	83.3			
Prefer dark haired dolls,	30	16.6			

Answers were received from but two boys (10 and 11 yrs.), of whom one attended the Real and the other the Classical gymnasium. Both of these were very fond of their dolls, named them and played with them. They did this secretly,

however, for fear the other boys would laugh at them, and both were less fond of dolls than when younger. Both preferred small china dolls, but one had a preference for light and the other for dark haired dolls. One had frocks for his doll, put it to bed and had it say its prayers. No conclusions can, of course, be drawn from these two cases, but it is quite possible that the fear of being laughed at and called girlish frequently inhibits in boys an instinctive desire to play with dolls.

All the children who answered the questions were fond of their dolls and named them, unusual and fancy names such as Hildebrande, Mimi, Lili, Pamela, Ophelia, etc., having the preference in most cases. One of the boys named his doll Alice, after the heroine of an English story which his mother read to him in translation. Polish children, in contrast to American children, rarely name their dolls after friends or acquaintances.

Twenty per cent. of the girls punish their dolls, but neither boy did so. The little mothers are often very severe and punish frequently; 41 whipped their dolls; others put them to bed, left them at home, put them in the corner, and deprived them of dinner, imitating in all probability their own punishments.

Many kinds of illness are mentioned which may be classified into two groups, (1) those known by experience, (2) those heard of or invented. The illnesses known by experience are treated imitatively by methods similar to those used for the original sufferers, *e. g.*, for sore eyes, bits of linen or wadding dipped in water, representing boracic acid, are used; for a cough, white medicine smelling of almonds; for a bruise, cold water, etc.

To the second group belong typhoid fever, inflammation of the lungs or brain, consumption, broken feet or neck, etc. For this class of illnesses, lying outside the experience, the children named no remedies.

My own child of four and a half often comes to me and asks what to do in case of severe illness, *i. e.*, typhus, small pox, scarlet fever, cancer. She listens attentively to the remedies prescribed, prepares powders, changes poultices, takes the temperature of the sick room and is very strict in regard to diet. She does not allow any one to enter the room or shut the door noisily, walks on tiptoe and is very careful about ventilating the room. She often makes a children's hospital by putting the dolls' beds in a corner of the room; she visits the sick and feeds them tea and broth, which she cooks herself on her own little stove. She enjoys this more than any other doll play.

Some of the children say in their papers: "My dolls are always well, they are never ill." The little mothers of these dolls are themselves healthy children.

An illness experienced or witnessed often causes the child to represent dramatically the hitherto unknown and strange circumstances which occur in the house of illness. Then, for the first time appears on the scene a strange man, the doctor, a person whom one meets with fear, whose name is spoken in a whisper. Such a case occurred with two little girls, the daughters of a neighbor. These children were very fond of doll plays, but had never played that their dolls were ill up to the time that the mother was seriously ill. When she had sufficiently recovered so that she was again able to sit in the children's room, she was astonished to hear the following conversation: "Is you baby ill, madam?" "O yes, doctor." "What is the matter?" "Inflammation of the lungs and typhoid fever." "Very well, you have put in the instrument?" "Yes, I did." "And how much?" "Five, six." "Dear me, so much? Maybe you put it in badly." "Very well indeed, so that it even bled." From this time on, the play of a sick baby, with many variations, was a favorite one with these children.

Most of the girls and one of the two boys sewed for their dolls, a fact which can be utilized in teaching needle work without rendering it drudgery. One hundred and fifty of the girls sewed on dresses for their dolls, but only ninety-seven on underclothing for them, and these latter were all from the country. City children become used to shabby underwear covered by fine gowns and mantles, a condition well expressed by the proverb "Oben fix und unten nix," which is only too true of the middle class represented in the answers here. A few typical answers are quoted.

Girl 9 (Posen). My doll has five frocks and one suit of underclothes.

Girl 12 (Posen). My doll has six frocks, two pairs of gloves, one hood, two pairs of drawers and one chemise.

Girl 14 (Warsaw). My doll always had lots of frocks, dresses, mantles, capes, etc., but very few underclothes, as nobody sees that.

Girl 10 (Kalisch). My doll has four dresses and one bonnet. She has no underclothes.

Girl 7 (Kalisch). My doll has eight frocks, one chemise and one pair of drawers.

Girl 11 (Kiev). My little daughters have several frocks each, hats, caps, gloves, furs, and one suit of underclothes each. When the washerwoman washes it, they go to bed.

Boy 10 (Kiev). My doll always has something on her back. I have made her a cap and mantle. She will go to school now.

While 150 girls mentioned dress and food, only 20, and those the youngest, spoke of washing, combing the hair and bathing their dolls. It is possible that the older children have been

often told that washing will spoil the doll's face and that the beautiful red of the cheeks will come off, yet the principle of imitation is very evident among children who are themselves carefully bathed and combed. Some of the little girls mention that they are fond only of such dolls as can be bathed. A comparison of the various studies shows that American, German and English children are far cleaner than ours.

The majority of the girls (150) and one of the boys put their dolls to bed, undressing and covering them, but only six say prayers with their dolls, reasons for not doing so being, "It would be a sin to say prayers with a doll," or "I never would think of praying with a doll, it is a profanation of holy things." These are not spontaneous answers of children, but reflections from their environment, for it would scarcely occur to a child who thinks of her doll as eating, feeling, being glad or unhappy, good or bad, that what she herself had been taught as a duty, would be wrong for the doll.

Only 17 (9.3%) children regularly take their dolls out to walk or drive, and here the clothes question is a factor. Some say that they take their dolls out when they are well dressed, or if they have new frocks, hats or mantles. In this regard for dress, country children differ from town children; the latter often say that their dolls need fresh air, and that they are taken out without hat or mantle and sometimes without even a frock.

In regard to size 80 (44.4%) children expressed a preference for large and 20 (11.1%) for small dolls, leaving, perhaps, the preference for medium sized dolls equal to that for large dolls, though the question as to medium sized dolls was not directly asked. Preference for light haired dolls is decided, since only 30 children say that they prefer dark haired dolls, while 150 prefer those with light hair. Pale dolls are preferred by 27 girls, chiefly the older ones, because "they look interesting," "refined" and "delicate." Such answers come chiefly from country children, who think their own complexions "too red."

Heirloom dolls, which have movable joints, can sit up or open and shut their eyes are favorites, but walking, boxing or talking dolls are not liked.

Only 17 girls (9.3%) say that they believe that their dolls are alive, and these belong to the youngest group. But there are many who say, "I know that my doll is only a doll, but I often think that she feels, hears, and sees," or "when I play I always think that my doll can hear what I say. I often think she is hungry or cold."

This dualism of feeling, which even though recognized by the child, makes her care for, feed, dress and bathe her dolls, and then forget them, leave them undressed daily and uncared

for. To an adult observer, this mingling of fact and fancy seems almost inexplicable. The child seems to believe and to doubt at the same time, and his world of make believe often receives rude shocks. Nurses, bonnes, elder brothers, and visitors often wreck a whole delightful structure of imaginative play with stupid remarks, and wound the child's sensibilities. To younger children the breaking of a favorite doll may be a tragedy, as it was in the case of my own child. She had had dolls from babyhood and often spoiled them without being affected by it. But when nearly three years old she was given a beautiful doll which became her beloved companion, slept with her, was taken to walk and fed. When she was three years and seven months old she fell, with doll in her arms, hopelessly crushing its face. For an instant she looked at the dreadful wreck, the holes where the eyes had been, and the shattered features. Then she shrieked and ran to me with the doll. "Mamma, do say she is not dead, do say she is not dead, do say she is well." She cried and shook convulsively. "She has her beautiful eyes and will go to bed with me. Oh, mamma, do say she is alive." She did not dare to look at the doll again, but put her in my arms. "Make her well; she will be well to-morrow." The shock resulted in a fever, and she often screamed for her doll at night, but no new doll could mitigate her grief. She would not look at them. It was only after months and a complete change of scene that she forgot. She is still very fond of dolls and a most devoted little mamma, yet now, if one of her dolls is broken, she at once says, "Never mind, she can be mended, or I can have another," yet there are moments when she seems to believe that her dolls eat, sleep, and feel heat or cold. In most cases, childish grief, though intense, is short lived, and 66.6% of the children say that they were soon consoled for untimely accidents to their favorites by another doll.

Polish children cease playing with dolls earlier than American, usually by nine or ten years, but there is a recrudescence of interest in dolls at about twelve, which is, perhaps, a cropping out of the maternal instinct.

Many children do not like to see their dolls in the arms of others, 74.4% expressing this feeling. This is, perhaps, instinctive, as mothers are nearly always jealous.

Forty-nine girls, or 27%, tell what they did with their spoiled dolls, 6 made a great funeral and buried them, 11 threw them away themselves, 17 ordered them to be thrown away, 5 gave them to a dolls' hospital, 1 burned the doll in the kitchen fire, 4 gave their broken dolls to servants, 2 made experiments with them, 2 sent them to an orphanage, and 1 to a poor sick child.

The doll plays mentioned by the children are hospital, school, funerals, weddings, visiting, dinner parties, dressing, and walks. All of these show the childish fondness for dramatic representations of things seen or of which they have heard. The variety and extent of these plays depends upon the mental content furnished to the child by its environment. The poor child, especially the city child, living in a dreary corner, without light, sun, flowers or trees, is dull and lacking in imagination, the child of well-to-do parents whose home surroundings are favorable, who has books and opportunities for seeing many things, has a far better developed imagination and his plays, even when rehearsals of actual experiences, are full of new combinations and possibilities. I have known some imaginative children who have in action and manner carried out some imaginary character for months or even years.

Careful observation of doll play offers to the psychologist a most fruitful field for the study of the imagination, as well as other childish traits.

LITERATURE.

Das Märchen und die Kindesseele, von N. HAURI. Pfarrer in St. Gallen. Praktische Haus-Bibliothek des Scwheizerischen Familien-Wochenblattes, No. 3. Verlag von Erhard Richter, Zurich, 1907. pp. 86.

The author is an enthusiastic advocate of fairy tales, but not of all fairy tales. In fact, his advocacy is limited chiefly to the Märchen collected by the brothers Grimm. Arabian Nights' Tales and the Volksmärchen of Musäus are condemned as unfit for children. Ticks Norwegischen Volksmärchen, Anderson's and Houff's Märchen and Richard Leanders' "Die Traumerereien an französischen Kaminen are placed in the second rank as regards their suitability to the child mind, though their poetic and artistic value is recognized. A number of the best-known fairy tales from Grimm are epitomized and commented upon in reference to their teaching for children. The chief argument of the author in favor of fairy tales is their value in developing the creative imagination of the child, and their portrayal of moral situations in a form adapted to the comprehension and emotional life of children.

Deutsche Land-Erziehungsheime. R. Voigtländers Verlag in Leipzig, 1906. pp. 39.

This pamphlet sets forth the educational principles and organization of boarding schools for boys and girls in Germany, founded by Dr. Lietz in accordance with the ideas which have been carried out by Dr. Cecil Reddie at Abbotsholme, England. These schools, although in five different sections (three for boys and two for girls), and situated in different parts of the country, are really one institution, and the pupils pass from one to the other in order of promotion. The course of study corresponds in general to that of the Oberrealeschule, but the development of character, through country life, manual work and hygienic living, is a fundamental consideration. The pupils are divided into small groups for their home life; for the boys there are three separate institutes, and for girls, two. Boys of the three youngest classes, Sexta to Quarta, live at Ilsenberg in the Hartz, those of Untertertia to Untersecunda, at Haubinda in Thuringia, and the three highest classes at Biberstein on the Rhone. The girls' schools are at Liversdorf, near Potsdam, and at Gaienhofen on the Bodensee. All these regions are picturesque and healthful and afford opportunity for excursions and much out-of-door life. Farming occupations and manual training are a required part of the curriculum for boys, and housekeeping and gardening for girls, the educational goal being the attainment of a well-poised, noble and self-reliant character, to educate young German men and women who shall be sound in body and mind, able to feel warmly and think clearly.

A schedule of daily programme of work and play is appended.

Mythus, Sage, Märchen in ihren Beziehungen zur Gegenwart, von ERNST SIECKE, DR. PHIL., und Professor am Lessing-Gymnasium in Berlin. J. C. Heinrichssche Buchhandlung, Leipzig, 1906. pp. 29.

The author of this lecture, who is a professor at the Lessing Gymnasium at Berlin, considers his subject matter under three divisions, the relation of mythology to (1) science, (2) art, (3) religion. To the first two divisions only a few paragraphs are devoted, briefly sketching the contributions of mythology to psychology and philology, the author's main interest being in the third division, namely, the relation of mythology to religion.

The distinction between myth, saga and märchen lies in the form and not in the subject matter, which is fundamentally the same. "Myths are the perceptions and experiences of a very primitive, childishly naïve, and entirely unscientific age, of the almost inconceivable occurrences of nature, especially celestial phenomena, of which those of the sun and moon are most important." Those cosmological narratives in which there was an underlying feeling of a supernatural power developed into myths, those in which the actors appear as heroes of former times are the so-called sagas: while those in which all relation to historical occurrences is dropped and which treat of simple men in the lower spheres of life are called Märchen. From the author's point of view the world of myth is the soil out of which religions have, in great part, sprung by a process of development. This is, of course, in conflict with all theories of revealed religions which accept revelation as absolute and unchangeable, but entirely in harmony with the science of comparative religion. In applying his theory to Old Testament narratives, the author would reduce Adam and Eve, paradise and the apple of temptation, to a moon myth, drawing comparisons from various classical sources.

Grosse Muneli, kleine Rekruten. vom REDAKTEUR. Die Gesundheitswarte der Schule, III Jahrgang, 1905, No. 8. pp. 191-195.

The above article, though brief, is of so unique a character that a summary of its contents is of interest. In 1901, Prof. E. Lüthi of Bern called attention to the extent to which milk was being used in certain parts of Switzerland for the feeding of prize cattle, sometimes fifteen quarts per day being fed to a single animal. Prof. Lüthi connected this with another fact and sees in it a grave social danger. In recent years only about 30% of the available army recruits from these regions have been accepted, the chief cause of rejection being inferiority of size. While the prize cattle, fed on milk, have so increased in size that for the present breeds new stalls must be built, since the old ones have become too small, the children, who are given Alpine rose tea as a substitute for the milk which can no longer be spared for them, have deteriorated. In some regions it is impossible to buy even a single glass of milk, so strictly is it devoted to the nourishing of these prize cattle. The following conversation between two peasants is reported. One asked the other for a few quarts of milk, saying that he had a fine calf and if it won a premium he would get 100 francs. But the neighbor had also a calf and therefore no milk to sell. Then answered the other, "I must take away the milk from my children." Since the rise of this prize cattle cult, milk, the most nourishing food of the mountain peasants' children, has been withdrawn from them, and the bodily deterioration in consequence is said to be observable in their school work, rendering them duller and less capable of attention.

Fejezetik a gyermekrajzok lélektanából Irta Nágy László tanitóképző-intézeti igazgató. 53 ábrával és 3 táblával. Budapest, 1905. Singer és Wolfner könyvkereskedése. pp. 96.

The above is a study of children's drawings by Nágy László of Budapest and, although in a language inaccessible to the general reader, contains some interesting drawings. As in the majority of

cases the age of the child is given in figures, these drawings can be used for comparison even by those who cannot read the text.

THEODATE L. SMITH.

Seventy Years Young, or the unhabitual way. By EMILY M. BISHOP. B. W. Huebsch, New York, 1907. pp. 205.

Mrs. Bishop fitly premises that it is much better to be seventy years young than forty years old. This booklet is characteristic of her important work. Some of its chapters are headed: Old Age Bugaboos, The Tendency of the Times, Birthdays, Old Age a Condition, Habit and Old Age, Keep out of Ruts, Body and Brain Commerce, The Habit of the Unhabitual, "If to do were as easy . . . ," Keeping the Body Young, Social and Domestic Thinking, and Feeling Ruts. There is certainly a singular freshness about this book which would make it attractive not only to those who know the remarkable personality of the author and every one interested in the subject, but to those who like a spritely, vivid and original style in literature. Many of Mrs. Bishop's friends have long wished she would write a book setting forth her own ideas that they might see how they compare with those of others which she has so long and so admirably interpreted. Although much of her personality is contained in it, those who know her will have to confess that there is even more in the latter than in the former. It is not an erudite volume, and the foot-notes and literary allusions are rare. It is, at any rate, eminently sane, and this is perhaps as high compliment as can be paid to any book of its class.

National Education Association and Fiftieth Anniversary Volume, 1857 to 1906. Published by the Association, Winona, Minn., 1907. pp. 949.

It was very appropriate that this anniversary volume should be attended by an index which now enables us to command and also incidentally evaluate what has been done by the National Education Association. One of the most interesting new additions to the work of the association has been the round tables where experts interested in important school subjects can meet informally in groups small enough for free discussion and where often the very best results arise. The dozen anniversary papers are among the most interesting of this new volume, and another unique feature which is very appropriate is the historical chapter, and yet another is the titles of papers printed, by years and departments, together with a bibliography. The work of the National Education Association is a great and important one. This would be the case if it only brought teachers together and gave them a good time, and this indeed it does, but there is a large and growing body of teachers most interested and most intelligent who desire to see the work of the association modified in several respects. In the first place, where there are some excellent men in the Board of Management the association is to a great extent still in the hands of machine educators, those whose interest is mainly official and who seek to control and direct everything in their own interests. This makes the association far less representative than it should be. In the next place, some of the very best educators, partly for the above reason and partly because of the general tone of the meetings, still hold aloof. They regret to see the programmes so largely arranged to meet local or geographical rather than educational needs. They would like to see the results of real investigation and less laudation and glorification of the past and present. Critics of our system should be no less welcome than those who feel it their mission to deny every imputation that our system is not nearly perfect. Nevertheless, the old association is doing much good work on

the whole, and we ought to be thankful when we reflect on how much worse it might be.

Commission on Primary, Secondary, Technical and other branches of education. Report of the commissioners, mainly on secondary education, containing the summarized reports, recommendations and extended reports of the commissioners, with illustrations, etc. Printed under No. 3 Report from Printing Committee. 13, October, 1904. William Applegate Gullick, Sidney, 1904. pp. 378.

Report of the Commissioners of Agricultural, Commercial, Industrial and other forms of technical education, containing the summarized reports with conclusions and recommendations, etc., and the extended report of the commissioners, with illustrations, etc. Printed under No. 13 Report from Printing Committee, 28 September, 1905. William Applegate Gullick, Sydney, 1905. pp. 853.

Interim Report of the Commissioners of certain parts of primary education. Containing the summarized reports, recommendations, conclusions and extended report of the commissioners, with illustrations, etc. William Applegate Gullick, Sydney, 1903. pp. 500.

We have here three immense blue book volumes gotten up with great detail, as is characteristic of such official publications, and containing many illustrations of school buildings, sites, etc., taken from reports and other publications in many lands. It is obvious, even upon a casual examination, that these volumes contain a vast mass of material of the highest interest and importance to teachers, and it is gratifying to Americans to observe how much of the material has been selected from this country. Fuller review will follow.

A Geographical School Garden, a children's garden laid out as a map of the United States. By HERMAN T. LUKENS. In The School Century for April, 1907. Geo. W. Jones, Ill., 1907. p. 383 *et seq.*

Dr. Lukens, of the State Normal School at California, Pa., has made a number of very original and suggestive new departures in educational practice as well as theory. He was rather impressed by the growing crops map of the United States at the St. Louis Exposition and also by the model of Palestine at Chautauqua. With this thought in mind and with the aid of his pupils, he laid out a school garden some 200 feet long as a map of the United States, true to compass directions, although he was unable to control the drainage aright. The boundaries were foot paths bordered by strips of wood. The irregular parts of the coastline were in strips of sheet-iron. Each child rents a State in due form of contract, and by working in the garden pretends to pass from the nomadic to the agricultural stage of life as savage man was tamed by garden work. State names are used in speaking of any one's lot, and the printed lease requires it to be kept free of weeds. There are flower shows, and the work is kept up during the vacation so far as practicable.

Manual of Composition and Rhetoric, by JOHN HAYS GARDINER, GEORGE LYMAN KITTREDGE and SARAH LOUISE ARNOLD. Ginn & Company, Boston, 1907. pp. 500.

This book is a typical illustration of what may be called Harvard English instruction. It deals with the relation of language to thought with great emphasis on narration, description, explanation, argument and a special section on literary criticism and method. These points are combined to make a manual of practical composition as well as at the same time a treatise on rhetorical technique.

The joint authorship, including three people, the omnium gatherum purpose, the long list of indebtednesses, the innumerable examples and the mass of details that crowd this rather bulky volume seems to the writer of this review warranted to sterilize any ingenious young mind who wants to know how and what to write. The rattle of the old bones heard in such sections as those that treat of punctuation, paragraph, the different kinds of sentences, variety, climax, choice of words, foreign words, colloquialisms, correctness, precision, appropriateness, expressiveness, etc., seem calculated to give a kind of literary horror and to make letters a nightmare. The book is a pretty good encyclopedia of the hack things that have been said by teachers of this subject for the last century and might be serviceable to a Harvard student who was required to write daily themes and wished to avoid as many bad marks as possible by a psychological study of the whims of his teacher. The book as a whole breathes the air of ultra-fastidiousness and is a good representative of those teachers of literature whose first purpose is to insure correctness and precision of expression with no reference whatever to whether or not the student has anything to say, and with no effort to give him anything to say. The work emphasizes form out of which every trace of content has been distilled.

Classroom Management, its principles and technique, by WILLIAM CHANDLER BAGLEY. The Macmillan Company, New York, 1907. pp. 322.

The author intends his work for the student of education in normal schools and colleges who is preparing for elementary teaching. He has gathered his data from observing good teachers, from text-books, from his own experience and from psychology. The routine factors of classroom management start with the daily programme, punctuality, hygiene, order, discipline and penalties. Attention he treats under several laws and then discusses the technique of class instruction, giving a whole chapter to the Batavia System. He tells how he would test results, dispose of the teacher's time, treats of the teacher's relations to the principal, supervisor and superintendent, and concludes with the ethics of schoolcraft.

Arm Movement Writing, by C. P. ZANER. Zaner & Bloser, Columbus, O., 1906. pp. 24.

Mr. Zaner has devised and set forth in different series an interesting and somewhat novel mode of teaching writing by means of arm movements. The thought that strikes the observer, first of all, is the large size of the letters which gradually diminishes through the series of seven books. It is claimed that this method conforms to the law of fundamental first and accessory movements later, that it results in more rapid writing, in a more correct formation of letters. It is impossible, of course, to pronounce any authoritative opinion upon a system known only through a series of writing books. The author is one of the finest penmen in the country and a teacher of experience and ability, and one is rather inclined to believe that the step here taken is a good one and is in the right direction.

School Administration, including Organization and Supervision of Schools, by JOHN T. PRINCE. C. W. Bardeen, Syracuse, 1906. pp. 423.

It is high time that Mr. Prince wrote some such a book as this, setting forth the results of his wide observation and experience. The chief topics are the nature and source of school organization, legislative provisions for the same, state, city, district, county and town adminis-

tration, the superintendent as organizer, supervisor, and his relations to community interests, the teacher as organizer, schools for defectives, and delinquents, and school reports. In addition to these chapters, we have appendices of more or less interest on the evolution of school supervision, that of rural schools together with their consolidation, school revenues and their distribution, hygiene, special schools, plans for state, for elementary and for high schools.

A Liberal Education, with an appendix containing a list of 500 best books, by CHARLES WILLIAM SUPER. C. W. Bardeen, Syracuse, 1907. pp. 105.

This volume has no index and no headings to its twenty-eight chapters and it is difficult to find out what it is all about. It seems, however, to be a set of notes of a somewhat miscellaneous kind bearing upon education, in which the author has recorded his meditations, his reading on very many kinds of subjects. In an appendix he has given a list of 500 so-called best books.

Aspects of Child Life and Education, by G. STANLEY HALL and some of his pupils. Edited by Theodate L. Smith. Ginn & Company, Boston, 1907. pp. 326.

This volume is a reprint of the following papers: The Contents of Children's Minds, The Psychology of Daydreams, Curiosity and Interest, The Story of a Sand Pile, A Study of Dolls, The Collecting Instinct, The Psychology of Ownership, Fetichism in Children, Boy Life in a Massachusetts Country Town Forty Years Ago. These papers have been revised to date by references to digests of literature published since they first appeared, and each has been provided with a select bibliography.

Work with Boys. Street Boys' Clubs. Vol. VII, No. 3, July, 1907. Published by the Alliance of workers with boys, Fall River. pp. 149-243.

The symposium on boys' clubs, which is the chief feature of this number, brings together a great deal of interesting information. The boys' club has come to stay, and there are now so many types that a suitable club can be found for almost every class, location, or purpose.

Chinese Life and Customs, by PAUL CARUS. Illustrated by Chinese artists. The Open Court Publishing Company, Chicago, 1907. pp. 114.

The writer here describes annual festivals, Chinese industries and foreign relations, Confucianism, ancestry worship, Taoism, Buddhism, childhood and education, betrothal and marriage, social customs and travel, sickness and death. The book contains two or three score of interesting illustrations.

Chinese Thought, an exposition of the main characteristic features of the Chinese world-conception, by DR. PAUL CARUS. Being a continuation of the author's essay "Chinese Philosophy." Illustrated. The Open Court Publishing Company, Chicago, 1907. pp. 195.

The author treats of the zodiacs of different nations, a throneless king and his empire, and the Chinese problem. It contains two or three score of interesting illustrations.

Official Report of the Nature-Study Exhibition and Conferences, held in the Royal Botanic Society's Gardens, Regent's Park, London, July 23rd to August 5th, 1902. Blackie & Son, Ltd., London, 1903. pp. 307.

This book comes to us at a somewhat belated date, but its impor-

tance justifies us in, at least, calling brief attention to it. The various aspects of the subject are treated by specialists, and on the whole it is sure to be a real help to teachers along this line.

The Cloakroom Thief and Other Stories About Schools, by C. W. BARDEEN. C. W. Bardeen, Syracuse, 1906. pp. 226.

Mr. Bardeen is mainly the novelist of the school teacher. Whatever else may be said of his short tales, they are extremely representative and typical of life in the school. It is with such things that the mind of especially the country teacher is principally occupied.

All About Johnny Jones, by CAROLYN VERHOEFF. Milton Bradley Company, Springfield, Mass., 1907. pp. 200.

This book is dedicated in loving memory to the beautiful life of one little child who died at the age of five in 1896. It was written to give pleasure to children and to help them realize the highest ideals of childhood. The moral is pointed, but not obtrusive. The author is a trained kindergartner and has the very high recommendation of a valuable introduction by Miss Patty Smith Hill, the most sagacious and sane of all our American kindergartners.

The Green Valley School, a pedagogic story, by C. W. G. HYDE. Northwestern School Supply Company, Minneapolis, 1907. pp. 186.

This seems to be an interesting pedagogic story of seventeen chapters based upon the reminiscences of a veteran teacher.

Report of Public Education of the First School District of Pennsylvania, Catalogue of the Pedagogical Library. Compiled by Lillian Ione MacDowell. Walther Printing House, Philadelphia. pp. 525.

This pedagogical library was founded in 1883, and an initial catalogue, which attained great popularity, was issued by Dr. James McAllister in 1887. This rather ponderous volume of 525 pages shows great growth in this library, which should be of value for all students in this field.

Randglossen eines Keltisten zum Schulstreik in Posen-Westpreusen und zur Ostmarkenfrage, von HEINRICH ZIMMER. Weidmann, Berlin, 1907. pp. 124.

The author first gives a résumé of Polish activity in Celtic lands, and the hostility of the English peoples thereto. He then discusses the relation of the Catholic church of the nineteenth century to the Celtic languages in Ireland and Brittany. In the fourth chapter, we are told what can be learned upon this subject from England, and in the last are presented new ideals for academic students of Germany.

Second International Congress on School Hygiene. London, August 5th-10th, 1907. Preliminary Programme. London, 1906. pp. 71.

This preliminary announcement of the International Congress of School Hygiene ought to attract very widespread attention and interest. It shows, at least, that the preliminary work of organizing has been admirably done and that those who attend will be likely to meet the chief authorities in every European land as well as in America who are interested in this subject. The congress will last six days, and from the partial programme here printed it is sure to be so attractive that we can say with great confidence that all Americans interested in any aspect of this subject ought to make it a point to be present.

Practical Health, by LEANDER EDMUND WHIPPLE. The Metaphysical Company, New York, 1907. pp. 316.

This is a book on mental health and describes thought action in health and in sickness and specific image treatment, then thought transformance generally with the folly of worry, the value of calmness, the usefulness of occult study, causative images, mental safeguards, the nature of disease, how to use the mind to secure self help and mental protection, the nervous nature of disease, emotion in sickness and in cure, self-control, health, purity of thought and the supremacy of mind.

Notes on the Care of Babies and Young Children, especially for the use of teachers, by BLANCHE TUCKER. With an introduction by Dr. Hope. Longmans, Green & Company, London, 1907. pp. 67.

This booklet seeks to give simple practical truths for the benefit of mothers and of teachers alike. It treats of various kinds of foods, crying, vaccination, teething, and a score of diseases and many remedies. The author has taken pains to make connection with many of the standard directions issued by hygienic and other societies.

Standard Selections, a collection and adaptation of superior productions from best authors for use in classroom and on the platform. Arranged and edited by Robert I. Fulton, Thomas C. Trueblood and Edwin P. Trueblood. Ginn & Company, Boston, Mass., 1907. pp. 510.

The object of this book is to provide, in addition to many standard and familiar selections, new material in poetry and oratory that has never before appeared in works of this class. The 200 pieces are divided into six classes, and cover a wide range of thought and emotion. It is hoped they may stimulate interest in the works of the authors. The volume is designed for use in high schools and colleges.

Examining and Grading Grains, by T. LYTTLETON LYON and E. G. MONTGOMERY. Ginn & Company, 1907. pp. 101.

This is a unique and interesting book and is called a kind of laboratory manual for the study of field crops. Instead of grains, this edition includes grasses, millets, legumes for forage, and commercial grades of hay. The laboratory exercises are designed to give the student a drill in the study of the structure and quality of all the cereals, in identification, in seeds, of the common grasses, etc., and judging the quality of hay of these crops. Exercises are arranged for each cereal. The studies are according to the rules adopted by the Board of Railroad and Warehouse Commissioners of grain markets.

Methods in Teaching, being the Stockton Methods in elementary schools, by ROSA V. WINTERBURN. Including a chapter on nature study by Edward Hughes. Macmillan Company, New York, 1907. pp. 355.

The Stockton schools, it may be remembered, figured at both the St. Louis and the Berlin expositions. These methods are here explained and are certainly interesting and suggestive, but they seem to be far less unique than these writers suppose. It is rather refreshing after the long era of uniformitization to have local methods evolved. In connection with the geographical places, this is well calculated to give a wholesome stimulus to local pride and to offer differentiation. This ought to act as an efficient stimulus to superintendents and teachers, and bring meritorious work into wholesome prominence, but whether the Stockton methods are worthy of being the Mecca of teachers we may well have grave doubts.

Individual Training in Our Colleges, by CLARENCE F. BIRDSEYE. The Macmillan Company, New York, 1907. pp. 434.

This volume is introduced with a few pages by the Commissioner of Education. Then follows a historical sketch of the ecclesiastical period in early American colleges when they were boarding schools and when theology dominated, with an account of politics, lotteries, poverty, salaries, methods of marking, examinations, vacations, studies, athletics, etc. Part second gives the age of university building, describing the German movement, the changes in this country after the Civil War, modifications of secondary schools and of entrance requirements, correspondence and other outside schools, and then dealing with present college conditions as to athletics, religion, relations of teachers and students, present evils, etc. Part third is devoted to the Greek letter fraternities. Part fourth is entitled their remedy. Here chapters are devoted to students' problems, waste, handicaps, duties of alumni, the present need of college-trained men, future calling, etc., together with an afterword advising young men about to enter college. The book is interesting and suggestive, and the author has made diligent use of authorities, and we should be very grateful for his contribution. The subject is, however, too large for any individual, and no one will agree with all that is said. Upon one general criticism some stress should be laid. The title of the book suggests that it is devoted to the newer methods of individual work with small groups in seminaries, etc., whereas this subject is barely touched upon.

Das Problem der Ehe, von GABRIELE REUTER. E. Kantorowicz, Berlin. pp. 67.

This is one of the booklets becoming now too common, published with no intimation of its date or age and dealing with a delicate subject in a somewhat radical way. Opinions like these can only be judged from the point of view of the period in which they were written, and therefore we forbear to review these.

Eindrücke und Momentaufnahmen von einem deutschen Abgeordnete, TOGO und KAMERUN, von (Anon). Wilhelm Weicher, Leipzig, 1905. pp. 111.

This volume, with its 37 full-page illustrations from the author's photographs, bears as its sub-title "Impressions of a Legislator." It is a kind of daybook describing the various places visited by the author; but, although he declares that he took this journey from a sense of his duties as a member of the Reichstag, he has almost nothing to say of a general nature concerning political or administrative questions, but is content to write in a descriptive way as a traveller.

Die Wissenschaft von Menschen, von FELIX GÜNTHER. Perthes, Gotha, 1907. pp. 193.

This book is designed as a contribution to the psychic life of Germany in the days of rationalism, with special reference to the development of German historical philosophy in the eighteenth century. Among the attractive chapters are those that treat of the general economic condition, the state of science, especially anthropology, paleontology, physiology and folklore. Very interesting is the author's presentation of the psychology of rationalism, especially touching the question of the influence of outer nature upon psychic life.

The Educative Process, by WILLIAM CHANDLER BAGLEY. Macmillan & Company, New York, 1907. pp. 358.

In discussing first the functioning of education, the writer seeks to

reduce it to its lowest terms as a supplement of heredity. The school controls environmental forces and the ethical end is social efficiency. The second part deals with the acquisition of experience which consists of reading meaning into sense impressions according to the usual Herbartian apperception theory, from the standpoint of which attention, interest and will are considered. Experience functions as habit and as judgment and its condensation results in concepts. Experience is organized by conceptual judgments and there are various factors of efficient recall. At this point one aspect of child study is very briefly but broadly considered. Experiences must be selected for educational purposes and formal must be distinguished from intrinsic value. The chief work of education is the development of ideals and types of experience. This brings us to the transmission of condensed experience and the technique of teaching. The work closes with several chapters devoted to typical forms of development and instruction, the inductive and the deductive lesson types, the study, recitation, drill, review, examination and hygiene.

Laboratory and Field Manual of Botany, by JOSEPH Y. BERGEN and BRADLEY M. DAVIS. Ginn & Company, Boston, 1907. pp. 257.

This manual offers material for considerably more than a year's laboratory work. This is made necessary by the fact that instructors differ widely in their view as to what matter should be presented in an introductory course taught under a variety of conditions.

NOTE.

From Dr. Frantisek Čáda of Prague comes the account of a child study association at Prague, which is doing excellent work. The organizers of this association are men from the highest ranks of the educational world. Monthly conferences are held which are open to all who wish to attend, and a consultation hour four times a week is open to those who wish to avail themselves of it. The following programme will serve to give an idea of the character of the work which is being done by this association.

PROGRAMME OF THE OPEN CONFERENCES OF THE HUNGARIAN ASSOCIATION FOR CHILD STUDY, 1905-1906.

Nov. 11th. Causes of Speech Defects in Children,
Dr. Arthur Sarbo, Professor of Children's Nervous Diseases.

Dec 9th. Punishment of Children,
Prof. Martin Schmidt, M. D.

Jan. 13th. Causes of Nervousness in Children,
Dr. Heinrich Sedusedery.
Causes of Nervousness in the Family,
Dr. Paul Ranordlurg, Supervisor of the Psychological Laboratory.

Feb. 10th. The Development of Speech in Certain Deaf Mute and Blind Children,
Prof. Joseph Balussa, M. D.

March 10th. Children's Interests,
Prof. Edmund Weszely, M. D.

Apr. 7th. The Development of the Self-consciousness of Children,
Dr. Georg Körösy, Director of Gymnasium in Ders.

THEODATE L. SMITH.